Trichoderma culture collection database

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, National Bureau of Agricultural Insect Resources
	(ICAR) Bellary Road, H. A. Farm Post, Bengaluru-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH1
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	Bangalore
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem,	
roof, soil, egg mass, insect, etc	Towards of insentions
Growth and maintenance	Tomato, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern or unique markers	-
•	Discounted a sout
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH2
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	Bangalore
Collection date	
Collected by	
District and state	

Details of isolation	1
Isolation by (Person and address)	R.D.Prasad
	N.S. i rusud
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Tomato, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 µm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	- Ref. http://itt.ars-grin.gov/taxaueseriphons/reys/
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH3
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	Maho, UP
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chilly, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH4
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	Maho, UP
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Chilly, rhizosphere
Growth and maintenance	Chiny, mizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
Geographical origin A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 µm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green
A brief description or distinctive features of the microorganism	of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-
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A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
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A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if deposited elsewhere	of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ - Biocontrol agent Fungi
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ - Biocontrol agent Fungi

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	Fax No 000-23411901
Name of the microorganisms	Trichoderma harzianum PDBCTH5
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	Maho, UP
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chilly, rhizosphere
Growth and maintenance	y,
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH6
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	Maho, UP
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chilly, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on DEI D/D ADD nottown	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ - Biocontrol agent
or unique markers	-
or unique markers Whether deposited microorganism is	-
or unique markers Whether deposited microorganism is Taxonomic data	-
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	- Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	Biocontrol agent Fungi

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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH7
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	GKVK
	Bangalore.
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chilly, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 µm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH8
Type of culture :	Fungus
Details of source of culture	Commercial formulations
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 µm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides
	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, $(2.0\text{-})2.7\text{-}3.5(\text{-}5.0)$ x $(1.8\text{-})2.5\text{-}3.0(\text{-}4.0)$ µm, L/W 1.1-1.2, smooth, green
Any record on DEI D/D A DD nottorn	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-
Any record on RFLP/RAPD pattern or unique markers	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, $(2.0\text{-})2.7\text{-}3.5(\text{-}5.0)$ x $(1.8\text{-})2.5\text{-}3.0(\text{-}4.0)$ µm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, $(2.0\text{-})2.7\text{-}3.5(\text{-}5.0)$ x $(1.8\text{-})2.5\text{-}3.0(\text{-}4.0)$ µm, L/W 1.1-1.2, smooth, green
or unique markers	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is Taxonomic data	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000-25411901
Name of the microorganisms	Trichoderma harzianum PDBCTH9
Type of culture :	Fungus
Details of source of culture	Rajasthan, RAU
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 µm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tend to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH10
Type of culture :	Fungus
Details of source of culture	Chettahalli
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chilly, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores typically with paired branches forming over 150 µm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) µm, L/W 1.1-1.2, smooth, green Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	Ket. http://nt.ars-grin.gov/taxauescriptions/keys/
	-
or unique markers	-
	Biocontrol agent
or unique markers	Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data	Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if deposited elsewhere	Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	Fungi

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	Fax No 000-23411901
Name of the microorganisms	Trichoderma harzianum PDBCTH11
Type of culture :	Fungus
Details of source of culture	CCRI, Chikmangalur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	C.arabica, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers Whether deposited microorganism is	Biocontrol agent
whether deposited interoorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH12
Type of culture :	Fungus
Details of source of culture	Trichoderma organic pit
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chilly, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH13
Type of culture :	Fungus
Details of source of culture	kanpur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chilly, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	D' 1
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH14
Type of culture :	Fungus
Details of source of culture	Bangla
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Cotton, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
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	Fax No. : 080-23411961
	. 000 23111701
Name of the microorganisms	Trichoderma harzianum PDBCTH15
Type of culture :	Fungus
Details of source of culture	Warangal
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Redgram, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	Discountry 1 a result
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH16
Type of culture :	Fungus
Details of source of culture	IIHR
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH17
Type of culture :	Fungus
Details of source of culture	Sdurga
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Groundnut, rhizosphere
Growth and maintenance	-
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH18
Type of culture :	Fungus
Details of source of culture	Anekel
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chilly, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000 23111701
Name of the microorganisms	Trichoderma harzianum PDBCTH19
Type of culture :	Fungus
Details of source of culture	Ananthpur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them.Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH20
Type of culture :	Fungus
Details of source of culture	Kanpur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chickpea, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μm of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μm, L/W 1.1-1.2, smooth, green
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma harzianum PDBCTH21
Type of culture :	Fungus
Details of source of culture	Arabhavi
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Cotton, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores typically with paired branches forming over 150 μ m of the length of terminal branches. Within these systems branches the longest branches form near the base of the system and nearest the main axis. Branches toward the tip and secondary branches tending to be held at 90° with respect to the axis from which they arise; further from the tip of the branching system the angle of branching tends to less than 90° with respect to the axis above. Cells supporting the phialides equivalent in width to, or at most only slightly wider than, the base of phialides arising from them. Conidia subglobose to ovoidal, (2.0-)2.7-3.5(-5.0) x (1.8-)2.5-3.0(-4.0) μ m, L/W 1.1-1.2, smooth, green
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV1
Type of culture :	Fungus
Details of source of culture	Hoskote
Place of isolation (Habitat crop, plant or animals etc)	Bangalore
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	Beans, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μ m long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μ m wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μ m, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Assessment on DEV D/D A DD as 44 and	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV2
Type of culture :	Fungus
Details of source of culture	Devanahalli
Place of isolation (Habitat crop, plant or animals etc)	Bangalore
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Tamoto, rhizosphere
Growth and maintenance	-
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls of 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV3
Type of culture :	Fungus
Details of source of culture	Bangalore
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Beans, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

C	
Geographical origin	
A brief description or distinctive features of the microorganism	 - Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialide arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV4
Type of culture :	Fungus
Details of source of culture	Bangalore
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Sugaraga ahiragahara
Growth and maintenance	Sugarcane, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000-23411701
Name of the microorganisms	Trichoderma viride PDBCTV5
Type of culture :	Fungus
Details of source of culture	Bangalore
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Sugarcane, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	 Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μ m long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis $(1.7-)2.2-3.2(-4.5)$ μ m wide. Conidia dark green, subglobose, on CMD, $(3.0-)3.5-4.5(-5.0)$ x $(2.7-)3.2-4.0(-4.8)$ μ m, L/W = $(0.8-)1.0-1.2(-1.5)$, conspicuously tuberculate.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV6
Type of culture :	Fungus
Details of source of culture	Bangalore
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Sugaraga ahiragahara
Growth and maintenance	Sugarcane, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000 23111701
Name of the microorganisms	Trichoderma viride PDBCTV7
Type of culture :	Fungus
Details of source of culture	Bangalore
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Sugarcane, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	 Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μ m long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis $(1.7-)2.2-3.2(-4.5)$ μ m wide. Conidia dark green, subglobose, on CMD, $(3.0-)3.5-4.5(-5.0)$ x $(2.7-)3.2-4.0(-4.8)$ μ m, L/W = $(0.8-)1.0-1.2(-1.5)$, conspicuously tuberculate.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV8
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Carliffanna skirasakan
	Cauliflower, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	Fax No 000-23411901
Name of the microorganisms	Trichoderma viride PDBCTV9
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
, , , , , , , , , , , , , , , , , , , ,	Sunflower, rhizosphere
Growth and maintenance	, 1
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

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Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialide arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV10
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	Rose, Green house
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000 23111701
Name of the microorganisms	Trichoderma viride PDBCTV11
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
1001, 5011, egg mass, mseet, etc	Plantation crops
Growth and maintenance	Timilation Crops
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Whether deposited metroorganism is	Diocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV12
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Plantation crops
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
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	Fax No. : 080-23411961
	. 000 25111701
Name of the microorganisms	Trichoderma viride PDBCTV13
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Plantation crops
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

<u> </u>	
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialide arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV14
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Plantation crops
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Fax No. : 080-23411961
	. 000-25411901
Name of the microorganisms	Trichoderma viride PDBCTV15
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Plantation crops
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

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Geographical origin	
A brief description or distinctive features of the microorganism	 Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialide arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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Name of the microorganisms	Trichoderma viride PDBCTV16
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Plantation crops
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Fax No. : 080-23411961
	. 000 2311701
Name of the microorganisms	Trichoderma viride PDBCTV17
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Plantation crops
Growth and maintenance	-
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Wilder apposite more or games.	
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV18
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Plantation crops
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide.Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000 23 111701
Name of the microorganisms	Trichoderma viride PDBCTV19
Type of culture :	Fungus
Details of source of culture	Bangalore(Hoskote)
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Plantation crops
Growth and maintenance	•
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	 Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μ m long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μ m wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μ m, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV20
Type of culture :	Fungus
Details of source of culture	Sollapur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Maize,rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV21
Type of culture :	Fungus
Details of source of culture	Sollapur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Maize,rhizosphere
Growth and maintenance	-
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV22
Type of culture :	Fungus
Details of source of culture	CCRI,Chickamangalur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	Areca ,rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide.Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	- Ref: http://nt.ars-grin.gov/taxauescriptions/keys/
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV23
Type of culture :	Fungus
Details of source of culture	annigeri
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chickpea ,rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Wilder apposite more or games.	
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV24
Type of culture :	Fungus
Details of source of culture	Sollapur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Maize ,rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000-25411901
Name of the microorganisms	Trichoderma viride PDBCTV25
Type of culture :	Fungus
Details of source of culture	Bombay
Place of isolation (Habitat crop, plant or animals etc)	Biocontrol company
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	D' 1
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV26
Type of culture :	Fungus
Details of source of culture	Sollapur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Maize ,rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV27
Type of culture :	Fungus
Details of source of culture	Jorhat
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Tea ,rhizosphere
Growth and maintenance	-
Medium of growth	Potato Dextrose Agar
	,
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

	1
Geographical origin	_
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialide arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide.Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
A J DEL D/D A DD 44	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
action and the second	21000mmor ngom
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV28
Type of culture :	Fungus
Details of source of culture	Mautern
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Parson and address)	R.D.Prasad
Isolation by (Person and address)	K.D.Frasau
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Paddy ,rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000 23111701
Name of the microorganisms	Trichoderma viride PDBCTV29
Type of culture :	Fungus
Details of source of culture	Iskon
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV30
Type of culture :	Fungus
Details of source of culture	Australia
Place of isolation (Habitat crop, plant or animals etc)	Bombay biocontrol Co
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide.Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	Ref: http://nt.ars-grm.gov/taxadescriptions/keys/
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000 23111701
Name of the microorganisms	Trichoderma viride PDBCTV31
Type of culture :	Fungus
Details of source of culture	Anekel
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Capsicum, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV32
Type of culture :	Fungus
Details of source of culture	Anekel
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Capsicum, rhizosphere
Growth and maintenance	Cupsicum, mizosphere
Growin and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 µm long and flexuous, with lateral branches paired or not and
	typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls of 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μ m wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μ m, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
C C C C C C C C C C C C C C C C C C C	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls of 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) µm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-
Any record on RFLP/RAPD pattern	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls of 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis $(1.7\text{-})2.2\text{-}3.2(\text{-}4.5)$ µm wide. Conidia dark green, subglobose, on CMD, $(3.0\text{-})3.5\text{-}4.5(\text{-}5.0)$ x $(2.7\text{-})3.2\text{-}4.0(\text{-}4.8)$ µm, L/W = $(0.8\text{-})1.0\text{-}1.2(\text{-}1.5)$, conspicuously tuberculate.
Any record on RFLP/RAPD pattern or unique markers	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls of 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) µm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) µm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls of 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) µm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) µm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) µm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) µm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ - Biocontrol agent Fungi
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) µm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) µm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) µm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) µm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if deposited elsewhere	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) µm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) µm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if deposited elsewhere Any other information	sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) µm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) µm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi

Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000-25411701
Name of the microorganisms	Trichoderma viride PDBCTV33
Type of culture :	Fungus
Details of source of culture	Anekel
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state Details of isolation	
Details of Isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Capsicum, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide. Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV34
Type of culture :	Fungus
Details of source of culture	GKVK
Place of isolation (Habitat crop, plant or animals etc)	Bangalore
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Mustand abigraphana
Growth and maintenance	Mustard, rhizosphere
N 17 6 4	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide.Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control
	(ICAR) Bellary Road , H. A. Farm Post, Bangalore-560024
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV35
Type of culture :	Fungus
Details of source of culture	Ananthapur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialid arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide.Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	+
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma viride PDBCTV36
Type of culture :	Fungus
Details of source of culture	Kanpur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	

Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Chickpea, rhizosphere
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD typically comprising a fertile central axis or the central axis 100-150 μm long and flexuous, with lateral branches paired or not and typically arising at an angle at or near 90° with respect to its supporting branch, sometimes lateral branches at widely-spaced intervals when near the tip of the conidiophore and arising at closer intervals when more distant from the tip; phialides arising singly from the main axis or in whorls ot 2-3 at the tips of lateral branches or at the tip of the conidiophore. The central axis (1.7-)2.2-3.2(-4.5) μm wide.Conidia dark green, subglobose, on CMD, (3.0-)3.5-4.5(-5.0) x (2.7-)3.2-4.0(-4.8) μm, L/W = (0.8-)1.0-1.2(-1.5), conspicuously tuberculate. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	- Ref. http://ntais-gim.gov/taxaucscriptions/refs/
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
Nature	Fungi Nil
Nature IPR/paten information, if any Provide accession number, if deposited elsewhere	
Nature IPR/paten information, if any Provide accession number, if	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	144110.
Name of the microorganisms	Trichoderma virens PDBCTVS1
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature Nature	Finai
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma virens PDBCTVS2
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	

Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
A DEL D/D A DD	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
	N. I
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	
Dignature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	Fax No. : 080-23411961
	rax No. : 080-23411901
Name of the microorganisms	Trichoderma virens PDBCTVS3
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma virens PDBCTVS4
Type of culture :	Fungus
Details of source of culture	Kailer
Place of isolation (Habitat crop, plant or animals etc)	Himachal Pradesh
Collection date	
Collected by	
District and state	
Details of isolation	

Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Maize, rhizosphere.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
A brief description or distinctive features of the microorganism	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth.
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers	5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth.
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers	5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is	5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data	5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
	. 000-25411701
Name of the microorganisms	Trichoderma virens PDBCTVS5
Type of culture :	Fungus
Details of source of culture	Kailer
Place of isolation (Habitat crop, plant or animals etc)	Himachal Pradesh
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Maize, rhizosphere.
Growth and maintenance	Waize, Illizosphere.
Growen and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-
features of the microorganism	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each
	branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a
	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-
	5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	- Ref. http://nt.ars-grin.gov/taxauescriptions/keys/
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	
Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Name of the Scientist maintaining and Designation	
	S.Sriram, Senior Scientist Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Affiliation : Patholgoy Lab, Project Directorate of Biological Control
	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343
	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961
Designation Name of the microorganisms	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus
Designation Name of the microorganisms	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6
Name of the microorganisms Type of culture: Details of source of culture	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus
Name of the microorganisms Type of culture: Details of source of culture	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or animals etc)	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or animals etc) Collection date	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or animals etc)	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or animals etc) Collection date Collected by	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or animals etc) Collection date Collected by District and state	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or animals etc) Collection date Collected by	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or animals etc) Collection date Collected by District and state Details of isolation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda Himachal Pradesh
Name of the microorganisms Type of culture: Details of source of culture Place of isolation (Habitat crop, plant or animals etc) Collection date Collected by District and state	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961 Trichoderma virens PDBCTVS6 Fungus Salogda

Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Banana, rhizosphere.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
or unique markers Whether deposited microorganism is	-
or unique markers Whether deposited microorganism is Taxonomic data	-
or unique markers Whether deposited microorganism is	-
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	- Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if deposited elsewhere	Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	Biocontrol agent Fungi

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control
	(ICAR) Bellary Road , H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma virens PDBCTVS7
Type of culture :	Fungus
Details of source of culture	Kailer
Place of isolation (Habitat crop, plant or animals etc)	Himachal Pradesh
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Maize, rhizosphere.
Growth and maintenance	Maze, mizospiere.
Grower and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma virens PDBCTVS8
Type of culture :	Fungus
Details of source of culture	Maho
Place of isolation (Habitat crop, plant or animals etc)	Himachal Pradesh
Collection date	
Collected by	
District and state	
Details of isolation	

Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Chilly, rhizosphere.
Growth and maintenance	Campy, Impospheror
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a
	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(5.8) x (3.0-)3.9-4.0(-4.8) μ m, L/W (0.9-)1.1-1.2(-1.5), smooth.
	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-
Any record on RFLP/RAPD pattern	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(5.8) x (3.0-)3.9-4.0(-4.8) μ m, L/W (0.9-)1.1-1.2(-1.5), smooth.
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(5.8) x (3.0-)3.9-4.0(-4.8) μ m, L/W (0.9-)1.1-1.2(-1.5), smooth.
or unique markers Whether deposited microorganism is	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ -
or unique markers	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ -
or unique markers Whether deposited microorganism is Taxonomic data	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ -
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma virens PDBCTVS9
Type of culture :	Fungus
Details of source of culture	Maho
Place of isolation (Habitat crop, plant or animals etc)	Himachal Pradesh
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Chilly, rhizosphere.
Growth and maintenance	Chiny, hitzosphere.
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma virens PDBCTVS10
Type of culture :	Fungus
Details of source of culture	CCRI
Place of isolation (Habitat crop, plant or animals etc)	Chickamangalur
Collection date	
Collected by	
District and state	
Details of isolation	

Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Jackfruit
Growth and maintenance	Jackiruit
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
features of the microorganism	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-
features of the microorganism Any record on RFLP/RAPD pattern	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth.
features of the microorganism Any record on RFLP/RAPD pattern or unique markers	5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
features of the microorganism Any record on RFLP/RAPD pattern	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth.
features of the microorganism Any record on RFLP/RAPD pattern or unique markers	5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is	5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data	5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi

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	Fax No. : 080-23411961
	. 000-25411901
Name of the microorganisms	Trichoderma virens PDBCTVS11
Type of culture :	Fungus
Details of source of culture	Kailer
Place of isolation (Habitat crop, plant or animals etc)	Himachal Pradesh
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Maize, rhizosphere.
Growth and maintenance	Marzo, Inizospiero.
310 W 612 W 110 110 110 110 110 110 110 110 110 1	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
Annument of DELD/DADD mettern	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma virens PDBCTVS12
Type of culture :	Fungus
Details of source of culture	Kailer
Place of isolation (Habitat crop, plant or animals etc)	Himachal Pradesh
Collection date	
Collected by	
District and state	
Details of isolation	

Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Mustard, rhizosphere.
Growth and maintenance	, ,
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a
	sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μ m, L/W (0.9-)1.1-1.2(-1.5), smooth.
Any record on RFLP/RAPD pattern	5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is	5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
or unique markers Whether deposited microorganism is	5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ -
or unique markers	5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ -
or unique markers Whether deposited microorganism is Taxonomic data	5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ -
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi

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	Fax No. : 080-23411961
	. 000 2311701
Name of the microorganisms	Trichoderma virens PDBCTVS13
Type of culture :	Fungus
Details of source of culture	Monakalmur, Karnataka
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
	Cotton, rhizosphere.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

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Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma Koningii PDBCTK1
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	

Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores arising more internally to the pustules, branches tend to be paired but internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those
	produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/kevs/
Any record on RFLP/RAPD pattern	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0)
or unique markers	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-
or unique markers	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is Taxonomic data	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi

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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma Koningii PDBCTK2
Type of culture :	Fungus
Details of source of culture	
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores arising more internally to the pustules, branches tend to be paired but internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, LW (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and Designation	S.Sriram, Senior Scientist
Designation	Affiliation : Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
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	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma Koningii PDBCTK3
Type of culture :	Fungus
Details of source of culture	Sollapur
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	

Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Tobacco, rhizosphere.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores arising more internally to the pustules, branches tend to be paired but internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/kevs/
A brief description or distinctive	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0)
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
A brief description or distinctive features of the microorganism Any record on RFLP/RAPD pattern or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi

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	(ICAR) Bellary Road , H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343 E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Twickedowng Koningii DDDCTVA
Type of culture :	Trichoderma Koningii PDBCTK4 Fungus
**	
Details of source of culture	Kailer
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Bellpepper, rhizosphere.
Growth and maintenance	Bempepper, mizosphere.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores arising more internally to the pustules, branches tend to be paired but internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) µm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) µm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma piluliferum PDBCTP1
Type of culture :	Fungus
Details of source of culture	Sollapur
Place of isolation (Habitat crop, plant or	
animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	Conidiophores arising more internally to the pustules, branches tend to be paired but internodes between branches short and phialides often held in penicillate heads of several; often pseudo whorls formed where phialides arise at short distances from each otherfrom a single cell rather than from a single point; phialides produced from the second type of conidiophore tending to be shorter and more conspicuously enlarged in the middle than those produced from the first type of conidiophore. The main axis of the conidiophore (1.9-)2.5-3.2(-3.8) μm wide. Conidia on CMD green, oblong to narrowly ellipsoidal, (3.0-)3.8-4.5(-5.0) x (1.9-)2.2-3.2(-4.3) μm, L/W (0.9-)1.3-1.9(-2.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	-
or unique markers	
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024 Phone: 080-23511998 ext. 343 E mail: sriram1702@rediffmail.com Fax No.: 080-23411961
Name of the microorganisms	Trichoderma piluliferum PDBCTP2
Type of culture :	Fungus
Details of source of culture	Kailer
Place of isolation (Habitat crop, plant or animals etc) Collection date	

Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Survivora instant different (a.e. 100f) etc.	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	
1551, 5511, 658 111155, 111555, 655	Bellpepper, rhizosphere.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
N. F. C. L.	Date Date Annual Annual
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
optimum temperature for growth	
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and	
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-
features of the microorganism	5.3(.6.9) µm, arising in clusters from aerial mycelium, branching toward the tip,
	each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-
	5.8) x (3.0-)3.9-4.0(-4.8) µm, L/W (0.9-)1.1-1.2(-1.5), smooth.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
	2.000
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma piluliferum PDBCTP3
Type of culture :	Fungus
Details of source of culture	CCRI,
Place of isolation (Habitat crop, plant or animals etc)	Chikmangalur
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	C.arabica ,rhizosphere.
Growth and maintenance	C.arabica ,filizospilere.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
Annunced on DELD/DADD nettern	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if deposited elsewhere	
Any other information	
Signature and date	

N	[C C.: C.: C.:
Name of the Scientist maintaining and	S.Sriram, Senior Scientist
Designation	Affiliation: Patholgoy Lab, Project Directorate of Biological Control (ICAR) Bellary Road, H. A. Farm Post, Bangalore-560024
	Phone : 080-23511998 ext. 343
	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma piluliferum PDBCTP4
Type of culture :	Fungus
Details of source of culture	Kargal.
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	

Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Healthy rice leaves.
Growth and maintenance	Healthy fice leaves.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI
Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0)-40.6-63.5(-150.0) x (3.0-)4.9-5.3(.6.9) μm, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of (2-)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, (3.6-)4.5-4.7(-
	5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth.
	5.8) x (3.0-)3.9-4.0(-4.8) μm, L/W (0.9-)1.1-1.2(-1.5), smooth. Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern	
or unique markers	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is Taxonomic data	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi
or unique markers Whether deposited microorganism is Taxonomic data Microorganism is deposited in Nature IPR/paten information, if any Provide accession number, if	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/ Biocontrol agent Fungi

Name of the Scientist maintaining and	S.Sriram, Senior Scientist
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	E mail : sriram1702@rediffmail.com
	Fax No. : 080-23411961
Name of the microorganisms	Trichoderma piluliferum PDBCTP5
Type of culture :	Fungus
Details of source of culture	Savadatti
Place of isolation (Habitat crop, plant or animals etc)	
Collection date	
Collected by	
District and state	
Details of isolation	
Isolation by (Person and address)	R.D.Prasad
Isolation date	
Specimen isolated from (eg. leaf) stem, roof, soil, egg mass, insect, etc	Groundnut ,rhizosphere.
Growth and maintenance	Groundilut ,filizosphere.
Growth and maintenance	
Medium of growth	Potato Dextrose Agar
Medium for sporulation	Potato Dextrose Agar
Optimum temperature for growth	25 to 30 °C
Incubation time	5-7 days
Subculture period	Once in 3 months
Special requirement for growth and sporulation, if any	
Identified by	IARI

Geographical origin	
A brief description or distinctive features of the microorganism	- Conidiophores on CMD, gliocladium-like, (10.0) -40.6-63.5(-150.0) x $(3.0$ -)4.9-5.3(.6.9) μ m, arising in clusters from aerial mycelium, branching toward the tip, each branch terminating in a penicillus of $(2$ -)3-6 closely appressed phialides, with a sterile stipe. Conidia on CMD green, broadly ellipsoidal to obovoid, $(3.6$ -)4.5-4.7(-5.8) x $(3.0$ -)3.9-4.0(-4.8) μ m, L/W $(0.9$ -)1.1-1.2(-1.5), smooth.
	Ref: http://nt.ars-grin.gov/taxadescriptions/keys/
Any record on RFLP/RAPD pattern or unique markers	-
Whether deposited microorganism is	Biocontrol agent
Taxonomic data	
Microorganism is deposited in	
Nature	Fungi
IPR/paten information, if any	Nil
Provide accession number, if	
deposited elsewhere	
Any other information	
Signature and date	