



Strain identifier

BacDive ID: 15115 **DOI:** 10.13145/bacdive15115.20190402.4
Type strain: yes
Culture col. no.: DSM 40148, ATCC 19746, ATCC 23619, CBS 485.68, ETH 24190, IFO 13190, INA 99/54, ISP 5148, NBRC 13190, RIA 1027

Sections

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Name and taxonomic classification

Ref.: 9348	Domain	Bacteria
Ref.: 9348	Phylum	Actinobacteria
Ref.: 9348	Class	Actinobacteria
Ref.: 9348	Order	Actinomycetales
Ref.: 9348	Family	Streptomycetaceae
Ref.: 9348	Genus	Streptomyces
Ref.: 9348	Species	Streptomyces cyaneofuscatus
Ref.: 9348	Full Scientific Name	Streptomyces cyaneofuscatus (Kudrina 1957) Pridham et al. 1958
Ref.: 9348	Designation:	None
Ref.: 9348	Type strain:	yes

Prokaryotic Nomenclature Up-to-date (PNU)

Ref.: 20215	Domain	Bacteria
Ref.: 20215	Phylum	Actinobacteria
Ref.: 20215	Class	Actinobacteria
Ref.: 20215	Literature reference	Int. J. Syst. Bacteriol. 47:483*
Ref.: 20215	Family	Streptomycetaceae
Ref.: 20215	Genus	Streptomyces
Ref.: 20215	Taxonomical status	genus (AL)



Ref.: 20215	Literature reference	Int. J. Syst. Bacteriol. 30:225
Ref.: 20215	Species	Streptomyces cyaneofuscatus
Ref.: 20215	Taxonomical status	comb. nov. (VP)
Ref.: 20215	Literature reference	Int. J. Syst. Evol. Microbiol. 9:2007
Ref.: 20215	Full Scientific Name	Streptomyces cyaneofuscatus (Kudrina 1957) Pridham et al. 1958 emend. Nouioui et al. 2018
Ref.: 20215	Synonym	Streptomyces cavourensis subsp. washingtonensis
Ref.: 20215	Synonym	Streptomyces ornatus

Morphology and physiology

Ref.: 19410	Cultivation medium used	ISP 2
Ref.: 19410	Colony color	Sand yellow
Ref.: 19410	Incubation period	10-14 days
Ref.: 19410	Cultivation medium used	ISP 3
Ref.: 19410	Colony color	Sand yellow
Ref.: 19410	Incubation period	10-14 days
Ref.: 19410	Cultivation medium used	ISP 4
Ref.: 19410	Colony color	Sand yellow
Ref.: 19410	Incubation period	10-14 days
Ref.: 19410	Cultivation medium used	ISP 5
Ref.: 19410	Colony color	Green beige
Ref.: 19410	Incubation period	10-14 days
Ref.: 19410	Cultivation medium used	ISP 6
Ref.: 19410	Colony color	Sand yellow
Ref.: 19410	Incubation period	10-14 days
Ref.: 19410	Cultivation medium used	ISP 7
Ref.: 19410	Colony color	Brown beige
Ref.: 19410	Incubation period	10-14 days



Ref.: 19410

API 20E

API ID	275
ONPG	+
ADH (Arg)	+
LDC (Lys)	-
ODC	-
CIT	+
H ₂ S	-
URE	+
TDA (Trp)	-
IND	+
VP	+
GEL	+
GLU	n.d.
MAN	n.d.
INO	n.d.
Sor	n.d.
RHA	n.d.
SAC	n.d.
MEL	n.d.
AMY	n.d.
ARA	n.d.
OX	n.d.
NO ₂	n.d.
N ₂	n.d.
MOB	n.d.
MAC	n.d.
OF-O	n.d.
OF-F	n.d.

Ref.: 19410

API zym

API ID	348
Control	n.d.
Alkaline phosphatase	+
Esterase (C 4)	+
Esterase Lipase (C 8)	+
Lipase (C 14)	+



Leucine arylamidase	+
Valine arylamidase	+
Cystine arylamidase	+
Trypsin	+
Alpha-chymotrypsin	+
Acid phosphatase	+
Naphthol-AS-BI-phosphohydrolase	+
Alpha-galactosidase	-
Beta-galactosidase	+
Beta-glucuronidase	-
Alpha-glucosidase	+
Beta-glucosidase	+
N-acetyl-beta-glucosaminidase	+
Alpha-mannosidase	+
Alpha-fucosidase	-

Ref.: 19410	Medium Name (multicellularity)	ISP 2
Ref.: 19410	Multicellular complex forming ability	no
Ref.: 19410	Medium Name (multicellularity)	ISP 3
Ref.: 19410	Multicellular complex forming ability	yes
Ref.: 19410	Multicellular complex name	Aerial Mycelium
Ref.: 19410	Medium Name (multicellularity)	ISP 4
Ref.: 19410	Multicellular complex forming ability	yes
Ref.: 19410	Multicellular complex name	Aerial Mycelium
Ref.: 19410	Medium Name (multicellularity)	ISP 5
Ref.: 19410	Multicellular complex forming ability	no



Ref.: 19410 **Medium Name (multicellularity)** ISP 6

Ref.: 19410 **Multicellular complex forming ability** no

Ref.: 19410 **Medium Name (multicellularity)** ISP 7

Ref.: 19410 **Multicellular complex forming ability** no

Culture and growth conditions

Ref.: 9348 **Culture medium** GYM STREPTOMYCES MEDIUM (DSMZ Medium 65), 28°C

Ref.: 9348 **Culture medium growth** yes

Ref.: 9348 **Culture medium link** https://www.dsmz.de/microorganisms/medium/pdf/DSMZ_Medium65.pdf

Ref.: 19410 **Culture medium** ISP 2

Ref.: 19410 **Culture medium growth** yes

Ref.: 19410 **Culture medium composition** Name: ISP 2 / Yeast Malt Agar (5265); 5265 Composition Malt extract 10.0 g/l Yeast extract 4.0 g/l Glucose 4.0 g/l Agar 15.0 g/l Preparation: Sterilisation: 20 minutes at 121°C pH before sterilisation: 7.0 Usage: Maintenance and Taxonomy Organisms: All Actinomycetes

Ref.: 19410 **Culture medium** ISP 3

Ref.: 19410 **Culture medium growth** yes

Ref.: 19410 **Culture medium composition** Name: ISP 3; 5315 Composition Dog oat flakes 20.0 g/l Trace element solution (5314) 2.5 ml/l Agar 18.0 g/l Preparation: Oat flakes are cooked for 20 minutes, trace element solution and agar are added (in the case of non rolled oat flakes the suspension has to be filtered). Sterilisation: 20 minutes at 121°C pH before sterilisation: 7.8 Usage: Maintenance and taxonomy (e.g. SEM As liquid medium for metabolite production) Organisms: All Actinomycetes Trace element solution 5314 Name: Trace element solution 5314; 5314 Composition CaCl₂ x H₂O 3.0 g/l Fe-III-citrate 1.0 g/l MnSO₄ 0.2 g/l ZnCl₂ 0.1 g/l CuSO₄ x 5 H₂O 0.025 g/l Sodium tetra borate 0.2 g/l CoCl₂ x 6 H₂O 0.004 g/l Sodium molybdate 0.01 g/l Preparation: Use double distilled water. Sterilisation: 20 minutes at 121°C pH before sterilisation: Usage: Trace element solution for different media Organisms:

Ref.: 19410 **Culture medium** ISP 4

Ref.: 19410 **Culture medium growth** yes

Ref.: 19410	Culture medium composition	Name: ISP 4; DSM 547 Solution I: Difco soluble starch, 10.0 g. Make a paste of the starch with a small amount of cold distilled water and bring to a volume of 500 ml. Solution II: CaCO ₃ 2.0 g K ₂ HPO ₄ (anhydrous) 1.0 g MgSO ₄ x 7 H ₂ O 1.0 g NaCl 1.0 g (NH ₄) ₂ SO ₄ 2.0 g Distilled water 500.0 ml Trace salt solution (see below) 1.0 ml The pH should be between 7.0 and 7.4. Do not adjust if it is within this range. Mix solutions I and II together. Add 20.0 g agar. Liquify agar by steaming at 100°C for 10 to 20 min. Trace element solution: FeSO ₄ x 7 H ₂ O 0.1 g MnCl ₂ x 4 H ₂ O 0.1 g ZnSO ₄ x 7 H ₂ O 0.1 g Distilled water 100.0 ml						
Ref.: 19410	Culture medium	ISP 5						
Ref.: 19410	Culture medium growth	yes						
Ref.: 19410	Culture medium composition	Name: ISP 5 (5323) Composition L-Asparagine 1.0 g/l Glycerol 10.0 g/l K ₂ HPO ₄ 1.0 g/l Salt solution (see preparation) 1.0 ml/l Agar 20.0 g/l Preparation: Salt solution 1.0 g FeSO ₄ x 7 H ₂ O 1.0 g MnCl ₂ x 4 H ₂ O 1.0 g ZNSO ₄ x 7 H ₂ O in 100 ml water Sterilisation: 20 minutes at 121°C pH before sterilisation: 7.2 Usage: Maintenance and taxonomy Organisms: All Actinomycetes						
Ref.: 19410	Culture medium	ISP 6						
Ref.: 19410	Culture medium growth	yes						
Ref.: 19410	Culture medium composition	Name: ISP 6 (5318) Composition Peptone 15.0 g/l Proteose peptose 5.0 g/l Ferric ammonium citrate 0.5 g/l Sodium glycerophosphate 1.0 g/l Sodium thiosulfate 0.08 g/l Yeast extract 1.0 g/l Agar 15.0 g/l Sterilisation: 20 minutes at 121°C pH before sterilisation: Usage: Production of melanoid pigments Organisms: All Actinomycetes						
Ref.: 19410	Culture medium	ISP 7						
Ref.: 19410	Culture medium growth	yes						
Ref.: 19410	Culture medium composition	Name: ISP 7 (5322) Composition Glycerol 15.0 g/l L-Tyrosine 0.5 g/l L-Asparagine 1.0 g/l K ₂ HPO ₄ 0.5 g/l NaCl 0.5 g/l FeSO ₄ x 7 H ₂ O 0.01 g/l Trace element solution 5343 1.0 ml/l Agar 20.0 Sterilisation: 20 minutes at 121°C pH before sterilisation: 7.3 Usage: Production of melanoid pigments Organisms: All Actinomycetes						
Ref.: 9348	Temperatures	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Kind of temperature</th> <th style="text-align: left;">Temperature</th> </tr> </thead> <tbody> <tr> <td>growth</td> <td>28 °C</td> </tr> <tr> <td>optimum</td> <td>28 °C</td> </tr> </tbody> </table>	Kind of temperature	Temperature	growth	28 °C	optimum	28 °C
Kind of temperature	Temperature							
growth	28 °C							
optimum	28 °C							
Ref.: 19410	Temperatures							
Ref.: 9348	Temperature range	mesophilic						
Ref.: 19410	Temperature range	mesophilic						

Isolation, sampling and environmental information



Ref.: 9348 **Sample type/isolated from** soil

Ref.: 9348 **Geographic location (country and/or sea, region)** Daghestan

Ref.: 9348 **Country** Russia

Ref.: 9348 **Continent** Europe

Isolation sources categories	Cat1	Cat2	Cat3
	#Environmental	#Terrestrial	#Soil

Application and interaction

Ref.: 9348 **Biosafety level** 1 Risk group (German classification)

Ref.: 19410 **Biosafety level** 1 Risk group (German classification)

Molecular biology

	Sequence database	Sequence accession description	Sequence accession number	Sequence length(bp)	Associated NCBI tax ID
Ref.: 20218	Marker Gene (DDBJ Direct submission)	Streptomyces cyaneofuscatus IT17-105 gene for cytochrome P450, complete cds	AB426715	1251	66883
Ref.: 20218	Marker Gene (DDBJ Direct submission)	Streptomyces cyaneofuscatus IT17-157 gene for cytochrome P450, complete cds	AB426723	1284	66883
Ref.: 9348	DDBJ EMBL Direct submission		AB184860		

Strain availability

Ref.: 9348 **Culture collection no.** DSM 40148, ATCC 19746, ATCC 23619, CBS 485.68, ETH 24190, IFO 13190, INA 99/54, ISP 5148, NBRC 13190, RIA 1027

Ref.: 9348 **Strain history** <- E.B. Shirling, ISP <- T.P. Preobrazhenskaya, INA

Associated Passport(s) in StrainInfo

Ref.: 20218 164880 - <http://www.straininfo.net/strains/164880>

Ref.: 20218 102935 - <http://www.straininfo.net/strains/102935>



- Ref.: 20218 102933 - <http://www.straininfo.net/strains/102933>
- Ref.: 20218 229222 - <http://www.straininfo.net/strains/229222>
- Ref.: 20218 216023 - <http://www.straininfo.net/strains/216023>
- Ref.: 20218 102937 - <http://www.straininfo.net/strains/102937>
- Ref.: 20218 102934 - <http://www.straininfo.net/strains/102934>
- Ref.: 20218 102938 - <http://www.straininfo.net/strains/102938>
- Ref.: 20218 334400 - <http://www.straininfo.net/strains/334400>
- Ref.: 20218 102940 - <http://www.straininfo.net/strains/102940>

References

- Ref.: 9348 Leibniz Institut DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH; Curators of the DSMZ; DSM 40148
- Ref.: 19410 Wink, J.: Compendium of Actinobacteria. HZI-Helmholtz-Centre for Infection Research, Braunschweig.
- Ref.: 20215 D.Gleim, M.Kracht, N.Weiss et. al.: Prokaryotic Nomenclature Up-to-date - compilation of all names of Bacteria and Archaea, validly published according to the Bacteriological Code since 1. Jan. 1980, and validly published nomenclatural changes since.
- Ref.: 20218 Verslyppe, B., De Smet, W., De Baets, B., De Vos, P., Dawyndt P. StrainInfo introduces electronic passports for microorganisms.. Syst Appl Microbiol. 37: 42-50 2014 (10.1016/j.syapm.2013.11.002, 24321274)

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