



Strain identifier

BacDive ID: 11238 **DOI:** 10.13145/bacdive11238.20190402.4
Type strain: yes **Designation:** HM6
Culture col. no.: DSM 45277, CCUG 57624, UTM 00102

Sections

- [Name and taxonomic classification](#)
- [Morphology and physiology](#)
- [Culture and growth conditions](#)
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Name and taxonomic classification

Ref.: 16116	Domain	Bacteria
Ref.: 16116	Phylum	Actinobacteria
Ref.: 16116	Class	Actinobacteria
Ref.: 16116	Order	Actinomycetales
Ref.: 16116	Family	Nocardiosaceae
Ref.: 16116	Genus	Nocardiosis
Ref.: 16116	Species	Nocardiosis sinuspersici
Ref.: 16116	Full Scientific Name	Nocardiosis sinuspersici Hamedi et al. 2010
Ref.: 16116	Designation:	HM6
Ref.: 16116	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	Nocardiosaceae
Ref.: 20215	Genus	Nocardiosis
Ref.: 20215	Taxonomical status	genus (AL)



Ref.: 20215	Literature reference	Int. J. Syst. Bacteriol. 30:225
Ref.: 20215	Species	Nocardioopsis sinuspersici
Ref.: 20215	Taxonomical status	sp. nov. (VP)
Ref.: 20215	Literature reference	Int. J. Syst. Evol. Microbiol. 60:2346*
Ref.: 20215	Full Scientific Name	Nocardioopsis sinuspersici Hamed et al. 2010

Morphology and physiology

Ref.: 29670	Gram stain	positive
Ref.: 29670	Cell shape	rod-shaped
Ref.: 21425	Cultivation medium used	ISP 2
Ref.: 21425	Colony color	Ivory (1014)
Ref.: 21425	Incubation period	10-14 days
Ref.: 21425	Cultivation medium used	ISP 3
Ref.: 21425	Colony color	Ivory (1014)
Ref.: 21425	Incubation period	10-14 days
Ref.: 21425	Cultivation medium used	ISP 4
Ref.: 21425	Colony color	Ivory (1014)/ Maize yellow (1006)
Ref.: 21425	Incubation period	10-14 days
Ref.: 21425	Cultivation medium used	ISP 5
Ref.: 21425	Colony color	Ivory (1014)
Ref.: 21425	Incubation period	10-14 days
Ref.: 21425	Cultivation medium used	ISP 6
Ref.: 21425	Colony color	Ivory (1014)
Ref.: 21425	Incubation period	10-14 days
Ref.: 21425	Cultivation medium used	ISP 7
Ref.: 21425	Colony color	Ivory (1014)/ Grey beige (1019)
Ref.: 21425	Incubation period	10-14 days



Nocardiosis sinuspersici

Ref.: 21425 **Cultivation medium used** Suter with tyrosine

Ref.: 21425 **Colony color** Pale brown (8025)

Ref.: 21425 **Incubation period** 10-14 days

Ref.: 21425 **Cultivation medium used** Suter without tyrosine

Ref.: 21425 **Colony color** Ivory (1014)

Ref.: 21425 **Incubation period** 10-14 days

Ref.: 61395 **Incubation period** 4-5 days

Ref.: 21425 Ref.: 29670 Ref.: 29670	Halophily	Salt	Tested relation	Salt conc.
		NaCl	maximum	10 %
		NaCl	growth	0-15 %
		NaCl	optimum	2.5 %

Ref.: 21425

API coryne

API ID	541
NIT	-
PYZ	-
PYRA	-
PAL	+
betaGUR	-
betaGAL	-
alphaGLU	+
betaNAG	+
ESC	-
URE	+/-
GEL	+/-
Control	n.d.
GLU	-
RIB	-
XYL	-
MAN	-
MAL	-
LAC	-
SAC	+

GLYG	-
CAT	n.d.

Ref.: 21425

API zym

API ID	1062
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	-

Metabolite utilization

Chebi ID	Metabolite	Utilization activity	Kind of utilization tested
22599	Arabinose	+	
62968	Cellulose	-	
30769	Citric acid	+	carbon source
28757	Fructose	+	
28260	Galactose	+	carbon source
17234	Glucose	+	
17754	Glycerol	+	carbon source
17268	Inositol	-	
17716	Lactose	+	carbon source
30794	Malonic acid	+	carbon source

Ref.: 21425

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Ref.: 29670	17306	Maltose	+	carbon source
Ref.: 29670	29864	Mannitol	+	carbon source
Ref.: 21425	37684	Mannose	+	
Ref.: 29670	37684	Mannose	+	carbon source
Ref.: 29670	28053	Melibiose	+	carbon source
Ref.: 29670	17632	Nitrate	+	reduction
Ref.: 29670	30768	Propionic acid	+	carbon source
Ref.: 29670	32816	Pyruvic acid	+	carbon source
Ref.: 21425	16634	Raffinose	+	
Ref.: 21425	26546	Rhamnose	+	
Ref.: 29670	26546	Rhamnose	+	carbon source
Ref.: 21425	17992	Sucrose	+	
Ref.: 29670	17992	Sucrose	+	carbon source
Ref.: 21425	18222	Xylose	+	
Ref.: 29670	18222	Xylose	+	carbon source

Ref.: 29670 **Decomposition/lysis** aggregates in chains

Ref.: 29670 **Oxygen tolerance** aerobe

Ref.: 61395 **Oxygen tolerance** aerobe

Ref.: 29670 **Ability of spore formation** yes

Culture and growth conditions

Ref.: 16116 **Culture medium** TRYPTICASE SOY BROTH AGAR (DSMZ Medium 535), 28°C

Ref.: 16116 **Culture medium growth** yes

Ref.: 16116 **Culture medium link** https://www.dsmz.de/microorganisms/medium/pdf/DSMZ_Medium535.pdf

Ref.: 16116 **Culture medium** GYM STREPTOMYCES MEDIUM (DSMZ Medium 65), 28°C

Ref.: 16116 **Culture medium growth** yes

Ref.: 16116 **Culture medium link** https://www.dsmz.de/microorganisms/medium/pdf/DSMZ_Medium65.pdf

Ref.: 21425 **Culture medium** ISP 2

Ref.: 21425 **Culture medium growth** yes



Ref.: 21425	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.: 21425	Culture medium	ISP 3
Ref.: 21425	Culture medium growth	yes
Ref.: 21425	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 CaCl ₂ x H ₂ O 3.0 g/l Fe-III-citrate 1.0 g/l MnSO ₄ 0.2 g/l ZnCl ₂ 0.1 g/l CuSO ₄ x 5 H ₂ O 0.025 g/l Sodium tetra borate 0.2 g/l CoCl ₂ x 6 H ₂ O 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.: 21425	Culture medium	ISP 4
Ref.: 21425	Culture medium growth	yes
Ref.: 21425	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.: 21425	Culture medium	ISP 5
Ref.: 21425	Culture medium growth	yes
Ref.: 21425	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.: 21425	Culture medium	ISP 6
Ref.: 21425	Culture medium growth	yes

Ref.: 21425	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.: 21425	Culture medium	ISP 7
Ref.: 21425	Culture medium growth	yes
Ref.: 21425	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.: 21425	Culture medium	Suter with tyrosine
Ref.: 21425	Culture medium growth	yes
Ref.: 21425	Culture medium composition	Name: Synthetically suter medium (5337) with and without tyrosine - see Kutzner,H.J., R. M. Kroppensted and F. Korn-Wendisch. (1986) Composition: Glycerol 15.0 g/l Tyrosine 1.0 (optional, see preparation comment) L-arginine 5.0 g/l L-glutamic acid 5.0 g/l L-methionine 0.3 g/l L-isoleucine 0.3 g/l K ₂ HPO ₄ 0.5 g/l MgSO ₄ x 7 H ₂ O 0.2 g/l Agar 20.0 g/l Trace element solution (5341) 1.0 ml Composition of Trace element solution (5341): CuSO ₄ x 5 H ₂ O 10.0 g/l CaCl ₂ x 2 H ₂ O 10.0 g/l FeSO ₄ x 7 H ₂ O 10.0 g/l ZnSO ₄ x 7 H ₂ O 10.0 g/l MnSO ₄ x 7 H ₂ O 40.0 g/l Preparation: Control medium is prepared without tyrosine Sterilisation: 20 minutes at 121°C pH before sterilisation: Usage: Production of melanoid pigment Organisms: All Actinomycetes
Ref.: 21425	Culture medium	Suter without tyrosine
Ref.: 21425	Culture medium growth	yes
Ref.: 21425	Culture medium composition	Name: Synthetically suter medium (5337) with and without tyrosine - see Kutzner,H.J., R. M. Kroppensted and F. Korn-Wendisch. (1986) Composition: Glycerol 15.0 g/l Tyrosine 1.0 (optional, see preparation comment) L-arginine 5.0 g/l L-glutamic acid 5.0 g/l L-methionine 0.3 g/l L-isoleucine 0.3 g/l K ₂ HPO ₄ 0.5 g/l MgSO ₄ x 7 H ₂ O 0.2 g/l Agar 20.0 g/l Trace element solution (5341) 1.0 ml Composition of Trace element solution (5341): CuSO ₄ x 5 H ₂ O 10.0 g/l CaCl ₂ x 2 H ₂ O 10.0 g/l FeSO ₄ x 7 H ₂ O 10.0 g/l ZnSO ₄ x 7 H ₂ O 10.0 g/l MnSO ₄ x 7 H ₂ O 40.0 g/l Preparation: Control medium is prepared without tyrosine Sterilisation: 20 minutes at 121°C pH before sterilisation: Usage: Production of melanoid pigment Organisms: All Actinomycetes

Temperatures

Ref.: 16116
 Ref.: 29670
 Ref.: 29670
 Ref.: 61395

Kind of temperature	Temperature
growth	28 °C
growth	15-37 °C
optimum	28 °C
growth	37 °C

Ref.: 16116 **Temperature range** mesophilic
 Ref.: 29670 **Temperature range** mesophilic
 Ref.: 61395 **Temperature range** mesophilic

Ref.: 29670 **pH**
 Ref.: 29670

Kind of pH	pH
growth	05-12
optimum	7

Isolation, sampling and environmental information

Ref.: 16116 **Sample type/isolated from** sandy rhizospheric soil at a depth of 10 cm
 Ref.: 16116 **Geographic location (country and/or sea, region)** Khuzestan Province, Sarbandar, seashore of Persian Gulf
 Ref.: 16116 **Country** Iran
 Ref.: 16116 **Continent** Asia

Ref.: 61395 **Sample type/isolated from** Soil, rhizospheric
 Ref.: 61395 **Geographic location (country and/or sea, region)** Persian Gulf, Sarbandar region
 Ref.: 61395 **Country** Iran
 Ref.: 61395 **Continent** Asia

Isolation sources categories

Cat1	Cat2	Cat3
#Environmental	#Terrestrial	#Sandy
#Environmental	#Terrestrial	#Soil
#Host Body-Site	#Plant	#Rhizosphere

Application and interaction

Ref.: 21425 **Biosafety level** L1 German classification
 Ref.: 16116 **Biosafety level** 1 Risk group (German classification)

Molecular biology

Ref.: 16116 **GC-content** 71.6 mol% high performance liquid chromatography (HPLC)

Ref.: 29670 **GC-content** 71.6 mol%

	Sequence database	Sequence accession description	Sequence accession number	Sequence length(bp)	Associated NCBI tax ID
Ref.: 16116	GenBank Direct submission	Nocardiosis sinuspersici strain HM6 16S ribosomal RNA gene, partial sequence	EU410476	1520	501010

Strain availability

Ref.: 16116 **Culture collection no.** DSM 45277, CCUG 57624, UTM 00102

Ref.: 16116 **Strain history** <- J. Hamedi, Univ. Tehran, Iran; HM6 <- F. Mohammadipanah

Associated Passport(s) in StrainInfo

Ref.: 20218 856568 - <http://www.straininfo.net/strains/856568>

Ref.: 20218 856567 - <http://www.straininfo.net/strains/856567>

Ref.: 20218 856569 - <http://www.straininfo.net/strains/856569>

References

Ref.: 16116 Leibniz Institut DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH; Curators of the DSMZ; DSM 45277

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)

Ref.: 21425 Wink, J.: Compendium of Actinobacteria . HZI-Helmholtz-Centre for Infection Research, Braunschweig.

Ref.: 29670 Barberan A, Caceres Velazquez H, Jones S, Fierer N. Hiding in Plain Sight: Mining Bacterial Species Records for Phenotypic Trait Information. mSphere 2: None-None 2017 (10.1128/mSphere.00237-17, None) - **originally annotated from #26056**

Ref.: 26056 IJSEM 2346 2010 (10.1099/ijms.0.018366-0)

Ref.: 61395 Culture Collection University of Gothenburg (CCUG); Curators of the CCUG; CCUG 57624

*** These References are textmined**

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