Class

Actinobacteria

Subclass

Actinobacteridae

Order

Actinomycetales

Suborder

Streptosporangineae

Family

Thermomonosporaceae

Genus

Thermomonospora

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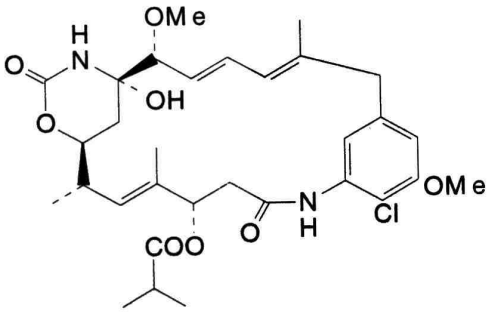
The Genus Thermomonospora

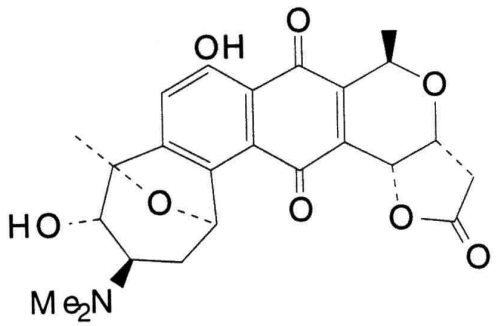
To the genus *Thermomonospora* belong 2 species *Thermomonospora chromogena* and *curvata*.

Produce single, heat-sensitive, nonmotile aleurospores on aerial hyphae. On agar media, a branched, nonfragmenting vegetative mycelium forms leathery colonies usually covered with aerial mycelium. Spores may be sessile but are more often formed at the tips of unbranched sporophores. Repeated sporophore branching may lead to the formation of spore clusters. Spores may also be produced on the substrate hyphae.

The cell wall contains meso-diaminopimelic acid (cell wall type III) . Sugar pattern is type C (no diagnostic sugar). Mycolic acids are absent. Menaquinones typically contain 9 or 10 isoprene units (MK-9, MK-10). Habitats are soil, manures, composts and overheated fodders.

The following two antibiotics habe been described from Thermomonospora species:





Type species is *Thermomonospora curvata.*

Lit.: Henssen, A. 1957
Beiträge zur Morphologie und Systhematik der thermophilen Actinomyceten.
Arch. Microbiol. 26: 373-416

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Genus Identity Card

Genus	***Thermomonospora***
Wall chemotype	meso-DAP (type III)
Whole cell sugar pattern	none (type C)
Fatty acid pattern	iso C 16:0, C 17:1, 10 methyl C 17:0
Major menaquinone (MK)	-9(H_4), (H_6), (H_8)
Phospholipidtype	phosphatidylglycerol, diphosphatidylglycerol, phosphatidylinositol type I
Mol% G+C of DNA	
Morphology	single, heatsensitive, nonmotile aleurospores on aerial hyphae, branched vegetative mycelium
Type species	*Thermomonospora curvata*

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Name: THERMOMONOSPORA
Authors: Henssen 1957 emend. Zhang et al. 1998
Status: Approved Lists
Type species: T. curvata
Literature: Int. J. Syst. Bacteriol. 30:412 (AL)
Comment: emended description: IJSB 48:418*

Name: *Thermomonospora alba*
Authors: (Locci et al. 1967) Cross and Goodfellow 1973
Status: Basonym
Literature: Int. J. Syst. Bacteriol. 30:412 (AL)
Risk group: 1 (German classification)
Type strain: IMET 9528, IPV 1900, KCC A-0077
Synonym: *Thermobifida alba*

Name: *Thermomonospora chromogena*
Authors: McCarthy and Cross 1984
Status: New Species
Literature: Int. J. Syst. Bacteriol. 34:356 (validation list)
Risk group: 1 (German classification)
Comment: basonym "*Actinobifida chromogena*"; synonym: "*Thermomonospora falcata*"
Type strain: Agre 577, DSM 43794, IMET 9529, NCIB 10212

Name: *Thermomonospora curvata* **(Type species)**
Authors: Henssen 1957
Status: Approved Lists
Literature: Int. J. Syst. Bacteriol. 30:412 (AL)
Risk group: 1 (German classification)
Type strain: ATCC 19995, CBS 141.67, DSM 43183

Name: *Thermomonospora formosensis*
Authors: Hasegawa et al. 1986
Status: Basonym
Literature: Int. J. Syst. Bacteriol. 36:20
Risk group: 1 (German classification)
Type strain: C-36820, DSM 43997, IFO 14204
Synonym: *Actinomadura formosensis*

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Name:	*Thermomonospora fusca*
Authors:	McCarthy and Cross 1984
Status:	Basonym
Literature:	Int. J. Syst. Bacteriol. 34:356 (validation list)
Risk group:	1 (German classification)
Type strain:	190Th, ATCC 27730, DSM 43792, NCIB 11185
Synonym:	*Thermobifida fusca*

Name:	*Thermomonospora mesophila*
Authors:	Nonomura and Ohara 1971
Status:	Basonym
Literature:	Int. J. Syst. Bacteriol. 30:412 (AL)
Risk group:	1 (German classification)
Type strain:	ATCC 27303, DSM 43048
Synonym:	*Microbispora mesophila*

Name:	*Thermomonospora mesouviformis*
Authors:	Nonomura and Ohara 1974
Status:	Heterotypic Synonym
Literature:	Int. J. Syst. Bacteriol. 30:412 (AL)
Risk group:	1 (German classification)
Comment:	synonymy: IJSB 48:413*
Type strain:	ATCC 27644, DSM 43185
Synonym:	*Thermobifida alba*

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Genus: ***Thermomonospora*** **FH 2843**
Species: ***chromogena***
Numbers in other collections:DSM 43794

Morphology:

	G	R
ISP 2	good	pastel yellow
	A	SP
	none	none
	G	R
ISP 3	sparse	colourless
	A	SP
	none	none
	G	R
ISP 4	sparse	colourless
	A	SP
	none	none
	G	R
ISP 5	sparse	colourless
	A	SP
	none	none
	G	R
ISP 6	good	pastel yellow
	A	SP
	none	none
	G	R
ISP 7	sparse	colourless
	A	SP
	none	none

Spore chains: Spore surface:
Sporangia: Fragmentation:

Melanoid pigment: - - - -
NaCl resistance: 7.5 %
Lysozyme resistance:
pH: Value- Optimum-
Temperature : Value- Optimum- 50°C
Carbon utilization:

Glu	Ara	Suc	Xyl	Ino	Man	Fru	Rha	Raf	Cel

Enzymes:

Gel	Cit	Ure	Arg	Onp	Trp	Lys	Odc	VP	Ind	H2S
2	3	4	5	6	7	8	9	10	11	
12	13	14	15	16	17	18	19	20		

Comments:
growth at 50°C

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Thermomonospora chromogena
A – Agar plates medium 5006, 5265, 5315, 5317 and 5323
B – Agar plates medium 5318, 5322, 5337 with and without tyrosine

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