

***Mycobacterium* sp., Strain GL05138 (Deposited as *Mycobacterium guadeloupense*)**

**Catalog No. NR-49091**

**Product Description:** *Mycobacterium* sp., strain GL05138 is of unknown origin. *Mycobacterium guadeloupense* (*M. guadeloupense*) is the proposed name of a new species of mycobacteria characterized on the basis of one isolate. The proposed name has not yet been published or accepted under the rules of the International Code of Nomenclature of Bacteria (Bacteriological Code).

**Lot<sup>1</sup>: 64362420**

**Manufacturing Date: 02AUG2016**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis<sup>2,3</sup></b> Cellular morphology Colony morphology <sup>4</sup>  Growth rate Growth at 45°C Growth at 55°C Acid-fast stain Pigmentation in the dark (Scotochromogen) Photoinduction for 1 hour (Photochromogen) Nonchromogen (no pigment) Biochemical tests Catalase Catalase (semiquantitative) Catalase (68°C) Iron uptake Nitrate reduction Tween 80 hydrolysis Urease Growth in the presence of 5% sodium chloride Growth in the presence of thiophene-2-carboxylic acid hydrazide (TCH) Growth in MacConkey without Crystal Violet	Report results Report results  Report results Negative Negative Report results Negative Positive Negative  Report results Positive Positive Positive Negative Negative Report results Report results Report results Report results  Report results	Rods Circular, convex, entire, rough and cream (Figure 1) 13 days Negative Negative Positive (red colonies) Negative Positive Negative  Positive Positive Positive Negative Negative Negative Positive Positive Positive Negative  Positive
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA (rRNA) gene (~ 1520 base pairs) Digital DNA-DNA hybridization (dDDH) <sup>6</sup>	≥ 99% sequence identity to <i>Mycobacterium</i> sp. ≥ 70% for species identification	≥ 99% sequence identity to <i>Mycobacterium</i> sp. <sup>5</sup> Not determined <sup>7,8</sup> (Table 1)
<b>Purity (post-freeze)</b> Middlebrook 7H10 agar with OADC enrichment <sup>9</sup>  Tryptic Soy agar <sup>9</sup>	Growth consistent with expected colony morphology Report results	Growth consistent with expected colony morphology Growth consistent with expected colony morphology
<b>Viability (post-freeze)<sup>4</sup></b>	Growth	Growth

<sup>1</sup>NR-49091 was produced by inoculation of the deposited material into Middlebrook 7H9 broth with ADC enrichment. Broth inoculum was added to Middlebrook 7H10 agar with OADC enrichment. The inoculated agar and broth were each grown for 14 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>. Colonies from the Middlebrook 7H10 agar with OADC enrichment culture were suspended into the Middlebrook 7H9 broth with ADC enrichment growth, and this biphasic culture was added to Middlebrook 7H10 agar with OADC enrichment kolles, which were grown for 7 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub> to produce this lot.

<sup>2</sup>Information on *Mycobacterium* testing is available from Ribón, W. "Biochemical Isolation and Identification of Mycobacteria." [Biochemical Testing](http://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria). (2012) Jose C. Jimenez-Lopez (Ed.), InTech, <http://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria> and Lévy-Frébault, V. V. and F. Portaels. "Proposed Minimal Standards for the Genus *Mycobacterium* and for Description of New Slowly Growing *Mycobacterium* Species." *Int. J. Syst. Bacteriol.* 42 (1992): 315-323. PubMed: 1581193.

<sup>3</sup>Phenotypic characterization of *M guadeloupense* was performed following information provided by the depositor, Dr. Enrico Tortoli, Senior Scientist, Emerging Bacterial Pathogens Unit, San Raffaele Scientific Hospital, Milano, Italy.

<sup>4</sup>13 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub> on Middlebrook 7H10 agar with OADC enrichment

<sup>5</sup>No 16S rRNA gene sequence for *M. guadeloupense* is available for species confirmation by alignment.

<sup>6</sup>Relatedness between bacterial strains has traditionally been determined using DDH. For additional information, refer to Auch, A.F., et al. "Digital DNA-DNA Hybridization for Microbial Species Delineation by Means of Genome-to-Genome Sequence Comparison." *Stand. Genomic Sci.* 2 (2010): 117-134. PubMed: 21304684.

<sup>7</sup>The whole genome of *M. guadeloupense*, strain GL05138 (Contig Total Length ~ 6.1 megabase pairs) was sequenced using the Illumina® MiSeq® system and was assembled and analyzed with CLC Genomics Workbench Version 7.0.2.

<sup>8</sup>The required whole genome sequence for the type strain of this species is not available. dDDH testing rules out all species listed in Table 1, however, this does not rule out species for which the type strains whole genome sequences are not available.

<sup>9</sup>Purity of this lot was assessed for 17 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>.

Figure 1: Colony Morphology

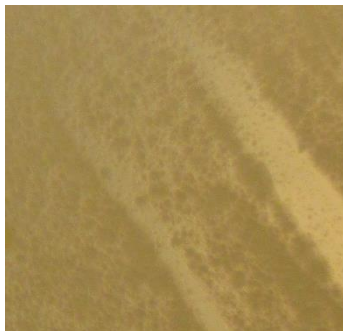


Table 1: Digital DNA-DNA hybridization (dDDH)

Species	Strain	Accession #	GGD vs. NR-49091 (Deposited as: <i>M. guadeloupense</i> )
<i>M. abscessus</i> subsp. <i>abscessus</i>	Hauduroy L948 <sup>T</sup>	NC_010397.1	19.2
<i>M. abscessus</i> subsp. <i>bolletii</i>	BD <sup>T</sup>	AHAS00000000.1	19.1
<i>M. abscessus</i> subsp. <i>massiliense</i>	CCUG 48898 <sup>T</sup>	NZ_AP014547.1	19.3
<i>M. aromaticivorans</i>	JS19b1 <sup>T</sup>	JALN00000000.2	19
<i>M. aurum</i>	ATCC 23366 <sup>T</sup>	CVQQ01000001.1	19
<i>M. austroafricanum</i>	E9789-SA12441 <sup>T</sup>	HG964450.1	19
<i>M. avium</i> subsp. <i>avium</i>	ATCC 25291 <sup>T</sup>	ACFI00000000.1	22
<i>M. avium</i> subsp. <i>paratuberculosis</i>	ATCC 19698 <sup>T</sup>	AGAR00000000.1	22.7
<i>M. avium</i> subsp. <i>silvaticum</i>	6409 <sup>T</sup>	AYOC00000000.1	22.5
<i>M. bohemicum</i>	CIP 105808 <sup>T</sup>	CSTD01000001.1	21.5
<i>M. canariasense</i>	502329 <sup>T</sup>	BCSY00000000.1	19.5
<i>M. celatum</i>	ATCC 51131 <sup>T</sup>	BBUN00000000.1	21.8
<i>M. chelonae</i>	CM 6388 <sup>T</sup>	CP010946.1	18.9
<i>M. chlorophenicolum</i>	PCP-I <sup>T</sup>	JYNL00000000.1	19.4
<i>M. chubuense</i>	48013 <sup>T</sup>	NC_018027.1	19.4
<i>M. colombiense</i>	10B <sup>T</sup>	AFVW00000000.2	21.7
<i>M. conceptionense</i>	D16 <sup>T</sup>	CTEF00000000.1	19.8
<i>M. cosmeticum</i>	LTA-388 <sup>T</sup>	CCBB00000000.1	19.6
<i>M. crocinum</i>	czh-42 <sup>T</sup>	BBHD00000000.1	21
<i>M. farcinogenes</i>	IEMVT 75 <sup>T</sup>	CCAY00000000.1	19.7
<i>M. fluoranthenvivorans</i>	FA4 <sup>T</sup>	BBFT00000000.1	20.6
<i>M. fortuitum</i> subsp. <i>fortuitum</i>	ATCC 6841 <sup>T</sup>	CP014258.1	19.4
<i>M. fortuitum</i> subsp. <i>acetamidolyticum</i>	NCH E11620 <sup>T</sup>	BCSZ00000000.1	19.3
<i>M. gastri</i>	ATCC 15754 <sup>T</sup>	AZYN00000000.1	26.8

Species	Strain	Accession #	GGD vs. NR-49091 (Deposited as: <i>M. guadeloupense</i> )
<i>M. genavense</i>	2289 <sup>T</sup>	JAGZ00000000.1	21.6
<i>M. haemophilum</i>	ATCC 29548 <sup>T</sup>	CP011883.2	22
<i>M. hassiacum</i>	3849 <sup>T</sup>	ARBU00000000.1	19.4
<i>M. hodleri</i>	EM12 <sup>T</sup>	BBGO00000000.1	21.6
<i>M. intracellulare</i>	ATCC 13950 <sup>T</sup>	NC_016946.1	21.8
<i>M. kansasii</i>	ATCC 12478 <sup>T</sup>	NC_022663.1	26.2
<i>M. kyrorinense</i>	KUM 060204 <sup>T</sup>	BBKA00000000.1	21.3
<i>M. mageritense</i>	938 <sup>T</sup>	CCBF00000000.1	19.5
<i>M. neoaurum</i>	ATCC 25795 <sup>T</sup>	JMDW00000000.1	19.1
<i>M. neworleansense</i>	W6705 <sup>T</sup>	CWKH00000000.1	19.4
<i>M. novocastrense</i>	73 <sup>T</sup>	BCTA00000000.1	19.5
<i>M. obuense</i>	47001 <sup>T</sup>	JYNU00000000.1	19.4
<i>M. pallens</i>	czh-8 <sup>T</sup>	BBHE00000000.1	21
<i>M. parascrofulaceum</i>	HSC-68 <sup>T</sup>	ADNV00000000.1	22
<i>M. pseudoshottsii</i>	L15 <sup>T</sup>	BCND00000000.1	22.7
<i>M. pyrenivorans</i>	17A3 <sup>T</sup>	BBHB00000000.1	21.5
<i>M. rufum</i>	JS14 <sup>T</sup>	JROA00000000.1	19.3
<i>M. rutilum</i>	czh-117 <sup>T</sup>	BBHF00000000.1	22.8
<i>M. septicum</i>	W4964 <sup>T</sup>	CBMO00000000.1	19.2
<i>M. setense</i>	ABO-M06 <sup>T</sup>	JTJW00000000.1	19.1
<i>M. simiae</i>	ATCC 25275 <sup>T</sup>	CBMJ00000000.2	21.1
<i>M. smegmatis</i>	ATCC 19420 <sup>T</sup>	LN831039.1	19.1
<i>M. thermoresistibile</i>	ATCC 19527 <sup>T</sup>	BCTB00000000.1	19.9
<i>M. triplex</i>	90-1019 <sup>T</sup>	CCAU00000000.1	21.7
<i>M. tuberculosis</i>	H37Rv <sup>T</sup>	NC_000962.3	22.8
<i>M. vaccae</i>	ATCC 15483 <sup>T</sup>	BCRS00000000.1	19.5
<i>M. vanbaalenii</i>	PYR-1 <sup>T</sup>	NC_008726.1	19.2
<i>M. vulneris</i>	NLA000700772 <sup>T</sup>	CCBG00000000.1	19.3
<i>M. yongonense</i>	05-1390 <sup>T</sup>	NC_021715.1	21.6
<i>Nocardia asteroides</i>	NBRC 15531 <sup>T</sup>	BAFO00000000.2	18.7

Date: 26 JUL 2017

Signature:



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