MBT Compass Library, Revision D
MBT 7311 MSP Library

(# 1829023)

Release Notes

Contents

1 Overview

1.1 What is new with MBT 7311 MSP Library?

- **409 new reference MSP** in total.
- **95 MSP** cover **9 new genera** and **48 new species** (see table 1).
- **314 new MSP** entries **improve the diversity coverage** of species already present in the MBT Compass reference library (see table 5).

1.2 Main improvements

- New **FOOD SPOILER** species, e.g. *Megashaera* sp, *Pediococcus* sp
- New **CLINICAL** strains to cover the diversity, e.g. *Neisseria gonorrhoeae/meningitides*, *Nocardia* sp
- New **ENVIRONMENTAL** species, e.g. *Paenibacillus* sp

Note:

Klebsiella variicola

The number of *Klebsiella variicola* reference entries has been improved compared to the previous library update. This species is considered to be closely related to *Klebsiella pneumoniae*. Using alternative identification methods, *Klebsiella variicola* is often wrongly identified as *Klebsiella pneumoniae*.

It may be possible that strains previously identified as *Klebsiella pneumoniae* may be identified as *Klebsiella variicola* with BDAL 6903 and BDAL 7311, because of the improved discrimination capability of the library.

The 9 new genera and 48 new species cover the following groups:

	New genera	New species	Aerobe species	Microaerophilic species	Anaerobe species
Gram -	4	15	11	1	3
Gram +	5	33	29	4	0
Yeast	0	0	0	-	-

Overall improvements:

	New MSP (from 409)	Species covered	Aerobe strains	Microaerophilic strains	Anaerobe strains
Gram -	155	51	80	18	57
Gram +	235	100	102	49	84
Yeast	19	7	19	-	-

DB – 7311 overall numbers:

	MSP	Genus	Species
Gram -	2994	208	1030
Gram +	3522	156	1244
Yeast	730	45	193
Filamentous Fungi	65	25	42
∑	7311	434	2509

Use MBT 7311 MSP Library with the following MBT RUO software versions:

- MALDI Biotyper 3.0
- MALDI Biotyper 3.1
- MALDI Biotyper 4.0 and 4.0 SR1
- MBT Compass

1.3 Additional libraries for Research Use Only workflow

New library setups are available and can be installed in parallel with the MBT Compass library; DB-7311 MSP.

Use the following setups after installing MBT 7311 MSP Library; MSP:

- MBT Mycobacteria Library 3.0 (# 1829016)
- MBT Mycobacteria Library 4.0 (# 1836022)
- MBT Filamentous Fungi Library (# 1829014, revised version)

or ask your local Bruker sales representative for further available products.

Note: After installation of the MBT 7311 MSP Library, the setups of the following libraries must not be executed due to compatibility issues:

- Mycobacteria Library 1.0 (# 8700279)
- Mycobacteria Library 2.0 (# 1819573)
- Fungi Library 1.0 (# 8700281)

2 New species

Table 1: Implementation of MSP entries for the following 48 new species

	New genus/species				Main relevance
1	***Avibacterium paragallinarum***	new species	Gram -	microaerophilic	VETERINARY
2	***Bacillus beringensis***	new species	Gram +	aerobic	ENVIRONMENT
3	***Bergeriella denitrificans***	new genus/species	Gram -	aerobic	VETERINARY
4	***Carnobacterium divergens***	new species	Gram +	aerobic	CLINICAL / FOOD
5	***Chelonobacter oris***	new genus/species	Gram -	aerobic	VETERINARY
6	***Chryseobacterium arachidis***	new species	Gram -	aerobic	ENVIRONMENT
7	***Citricoccus nitrophenolicus***	new genus/species	Gram +	aerobic	ENVIRONMENT
8	***Dolosigranulum pigrum***	new genus/species	Gram +	aerobic	CLINICAL
9	***Dysgonomonas capnocytophagoides***	new species	Gram -	aerobic	CLINICAL
10	***Janibacter hoylei***	new species	Gram +	aerobic	ENVIRONMENT
11	***Kocuria salsicia***	new species	Gram +	aerobic	FOOD SPOILAGE
12	***Kurthia zopfii***	new genus/species	Gram +	aerobic	FOOD SPOILAGE
13	***Lactobacillus backii***	new species	Gram +	microaerophilic	FOOD SPOILAGE
14	***Lactobacillus rodentium***	new species	Gram +	microaerophilic	VETERINARY
15	***Luteimonas aestuarii***	new species	Gram -	aerobic	ENVIRONMENT
16	***Luteococcus japonicus***	new species	Gram +	aerobic	FOOD SPOILAGE
17	***Megasphaera cerevisiae***	new species	Gram -	anaerobic	FOOD SPOILAGE
18	***Megasphaera elsdenii***	new species	Gram -	anaerobic	FOOD / ENVIRONMENT
19	***Megasphaera sueciensis***	new species	Gram -	anaerobic	FOOD / ENVIRONMENT
20	***Mobilicoccus pelagius***	new genus/species	Gram +	aerobic	VETERINARY
21	***Myroides phaeus***	new species	Gram -	aerobic	CLINICAL

	New genus/species				Main relevance
22	***Nocardia amikacinitolerans***	new species	Gram +	aerobic	CLINICAL
23	***Nocardia inohanensis***	new species	Gram +	aerobic	CLINICAL
24	***Nocardia mexicana***	new species	Gram +	aerobic	CLINICAL
25	***Nocardia ninae***	new species	Gram +	aerobic	CLINICAL
26	***Nocardia niwae***	new species	Gram +	aerobic	CLINICAL
27	***Nocardia sungurluensis***	new species	Gram +	aerobic	ENVIRONMENT
28	***Nocardia thraciensis***	new species	Gram +	aerobic	ENVIRONMENT
29	***Oenococcus kitaharae***	new genus/species	Gram +	microaerophilic	FOOD SPOILAGE
30	***Paenibacillus elgii***	new species	Gram +	aerobic	ENVIRONMENT
31	***Paenibacillus filicis***	new species	Gram +	aerobic	ENVIRONMENT
32	***Paenibacillus marinisediminis***	new species	Gram +	aerobic	ENVIRONMENT
33	***Paenibacillus mucilaginosus***	new species	Gram +	aerobic	ENVIRONMENT
34	***Paenibacillus soli***	new species	Gram +	aerobic	ENVIRONMENT
35	***Paenibacillus woosongensis***	new species	Gram +	aerobic	ENVIRONMENT
36	***Paenochrobactrum pullorum***	new genus/species	Gram -	aerobic	VETERINARY
37	***Pediococcus claussenii***	new species	Gram +	aerobic	FOOD SPOILAGE
38	***Pediococcus damnosus***	new species	Gram +	microaerophilic	FOOD SPOILAGE
39	***Pediococcus inopinatus***	new species	Gram +	aerobic	FOOD SPOILAGE
40	***Pseudomonas guariconensis***	new species	Gram -	aerobic	ENVIRONMENT
41	***Pseudoxanthomonas mexicana***	new species	Gram -	aerobic	ENVIRONMENT
42	***Rothia endophytica***	new species	Gram +	aerobic	ENVIRONMENT
43	***Rothia terrae***	new species	Gram +	aerobic	ENVIRONMENT
44	***Sphingomonas echinoides***	new species	Gram -	aerobic	ENVIRONMENT
45	***Staphylococcus gallinarum***	new species	Gram +	aerobic	ENVIRONMENT

	New genus/species				Main relevance
46	***Staphylococcus microti***	new species	Gram +	aerobic	VETERINARY
47	***Streptomyces nogalater***	new species	Gram +	aerobic	ENVIRONMENT
48	***Zymomonas mobilis***	new genus/species	Gram -	aerobic	FOOD

3 Deleted MSP entries

Table 2: Deleted MSP entries

Deletions	Reason
Aggregatibacter actinomycetemcomitans DSM 8324T DSM	Will be replaced with new measurement of this strain

4 Renaming

Table 3: Renaming of MSP entries

DB-6763	DB-7311	Justification
N/A	N/A	N/A

5 Changes to matching hints

Table 4: Matching Hints Changes

DB-6903		DB-7311	Justification
Corynebacterium coyleae *Corynebacterium falsenii*	Link to Matching Hint deleted	N/A	Species can be clearly discriminated from other *Corynebacterium* species.

DB-6903		DB-7311	Justification
Mannheimia haemolytica	Link to Matching Hint deleted	N/A	Species can be clearly discriminated from other *Mannheimia* species.
Burkholderia thailandensis	Update wording of Matching Hint	Burkholderia thailandensis is closely related and shows very similar spectra to the highly pathogenic Burkholderia pseudomallei / mallei which are possibly not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional.	Change wording from “are not included” to “are possibly not included”. Implementation of additional database extension exclusively for MBT Compass IVD software requires more precise wording.
Vibrio albensis	Update wording of Matching Hint	Vibrio albensis (V. cholerae biovar albensis) is closely related and shows very similar spectra to the highly pathogenic Vibrio cholerae which is possibly not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional.	Change wording from “is not included” to “is possibly not included”. Implementation of additional database extension exclusively for MBT Compass IVD software requires more precise wording.
Actinotignum schaalii	Update wording of Matching Hint	Synonym of Actinobaculum schaalii. Species sanguinis / schaalii of the genus Actinotignum have very similar patterns: Therefore distinguishing their species is difficult.	Synonym information is added to the Matching Hint information
Escherichia coli	Update wording of Matching Hint	Closely related to Shigella / Escherichia fergusonii and not definitely distinguishable at the moment.	New findings show that strains from the rare species *Escherichia fergusonii* may not be differentiated from *Shigella* and *Escherichia coli*.
Escherichia fergusonii	New Matching Hint	Closely related to Shigella / Escherichia coli and not definitely distinguishable at the moment.	New findings show that strains from the rare species *Escherichia fergusonii* may not be differentiated from *Shigella* and *Escherichia coli*.

DB-6903		DB-7311	Justification
Klebsiella pneumoniae	New Matching Hint	Closely related to Klebsiella variicola	Points out the close relation to another species
Klebsiella variicola	New Matching Hint	Closely related to Klebsiella pneumoniae	Points out the close relation to another species

6 Species improved by implementation of further reference entries

Table 5: Species improved

Abiotrophia defectiva	***Arthrobacter cumminsii***	***Carnobacterium maltaromaticum***	***Cupriavidus metallidurans***
Actinomyces europaeus	***Atopobium vaginae***	***Clostridium bifermentans***	***Dermabacter hominis***
Actinomyces funkei	***Aureimonas altamirensis***	***Clostridium bolteae***	***Elizabethkingia miricola***
Actinomyces graevenitzii	***Bacillus siralis***	***Clostridium butyricum***	***Enterococcus mundtii***
Actinomyces hyovaginalis	***Bacteroides caccae***	***Clostridium clostridioforme***	***Enterococcus raffinosus***
Actinomyces radingae	***Bacteroides nordii***	***Clostridium innocuum***	***Ewingella americana***
Actinomyces turicensis	***Bacteroides salyersiae***	***Clostridium paraputrificum***	***Facklamia hominis***
Actinomyces urogenitalis	***Bacteroides stercoris***	***Clostridium ramosum***	***Flavonifractor plautii***
Actinotignum sanguinis	***Bordetella petrii***	***Clostridium septicum***	***Gemella morbillorum***
Actinotignum schaalii	***Bordetella trematum***	***Clostridium sordellii***	***Haemophilus paraphrohaemolyticus***
Aerococcus sanguinicola	***Candida intermedia***	***Clostridium tertium***	***Helcococcus kunzii***
Aggregatibacter actinomycetemcomitans	***Candida palmioleophila***	***Corynebacterium coyleae***	***Lactobacillus brevis***
Aggregatibacter aphrophilus	***Candida pararugosa***	***Corynebacterium falsenii***	***Lactobacillus gasseri***
Aggregatibacter segnis	***Candida utilis***	***Corynebacterium mucifaciens***	***Lactococcus lactis***
Alloscardovia omnicolens	***Candida zeylanoides***	***Corynebacterium simulans***	***Lactococcus raffinolactis***

Lautropia mirabilis	***Neisseria subflava***	***Prevotella bergensis***	***Weeksella virosa***
Leclercia adecarboxylata	***Nocardia niigatensis***	***Propionibacterium acnes***	***Wohlfahrtiimonas chitiniclastica***
Legionella bozemanii	***Nocardia otitidiscaviarum***	***Robinsoniella peoriensis***	
Legionella longbeachae	***Nocardia pseudobrasiliensis***	***Roseomonas mucosa***	
Lelliottia amnigena	***Nocardia thailandica***	***Sphingomonas pseudosanguinis***	
Leuconostoc citreum	***Nocardia vermiculata***	***Staphylococcus lentus***	
Leuconostoc gelidum	***Odoribacter splanchnicus***	***Staphylococcus succinus***	
Leuconostoc lactis	***Paenibacillus chinjuensis***	***Staphylococcus warneri***	
Malassezia pachydermatis	***Paenibacillus lactis***	***Streptococcus canis***	
Mannheimia haemolytica	***Paenibacillus mendelii***	***Streptococcus sobrinus***	
Microbacterium phyllosphaerae	***Paenibacillus residui***	***Trichosporon inkin***	
Neisseria bacilliformis	***Paenibacillus stellifer***	***Turicella otitidis***	
Neisseria elongata ssp nitroreducens	***Pantoea septica***	***Vagococcus fluvialis***	
Neisseria gonorrhoeae	***Parabacteroides goldsteinii***	***Veillonella parvula***	
Neisseria lactamica	***Parvimonas micra***	***Vibrio ostreicida***	
Neisseria meningitidis	***Pluralibacter gergoviae***	***Wautersiella falsenii***	

7 Installation instructions

- Make sure that the previously installed library has received the last update: 6903 MSPs. If not, please contact Bruker.
- Execute the RUO setup file.

  Note To run setups requires administrator rights and can take several hours to complete. Please be aware that a once started MSP library update must not be interrupted. Any interruption would leave the installed MSP library in an intermediate and therefore invalid state.

  Note Users of laboratory-specific specimen codes may use the tables provided above to update their code lists. These lists can then be used as a basis to update dedicated code list used, for example, in LIMS integration. If questions occur, please contact your LIMS provider or MALDI Biotyper Software support (biotyper.sw.support@bruker.com).

- After successful installation the appropriate MBT RUO client application will use the updated MBT Compass library containing 7311 MSPs.