

# Biolog Lab Services Report Interpretation Guide – MALDI-TOF

## Top ten matches to a validated database

Score value is calculated by a matching algorithm used to compare protein spectral patterns.

A Species level match must have a score value of  $\geq 2.000$  and a second Species score value must be  $> 0.200$  away from the top score. If the second Species score is  $< 0.200$  from the top match then a Species, Closely Related confidence level is given, and the species that are closely related are highlighted on the report.

A Genus level match is assigned when the Score Value is  $\geq 1.700$  and  $< 2.000$  and a second Genus score is  $> 0.200$  away from the top score.

The Source information is the culture collection source that was used to make the library entry. The library version is also indicated on the report.

A general Score Value Key is included at the bottom of the report:

Score Value Key	
Range	Confidence Level
2.000 – 3.000	Species
2.000 – 3.000 – multiple species	Species, Closely Related
1.700 – 1.999	Genus
0.000 – 1.699	No Match

## Further Reading

### Using MALDI-ToF as an Identification Tool

Mellmann, A., F. Bimet, C. Bizet, A.D. Borovskaya, R.R. Drake, U. Eigner, A.M. Fahr, Y. He, E.N. Illina, M. Kostrzewa, T. Maier, L. Mancinelli, W. Moussaoui, G. Prévost, L. Putignani, C.L. Seachord, Y.W. Tang, and D. Harmsen. 2009. High Interlaboratory Reproducibility of Matrix-Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry-Based Species Identification of Nonfermenting Bacteria. *J. Clin. Micro.* 47:3732-3734.

Bizzini, A., C. Durussel, J. Bille, G. Greub, and G. Prod'hom. 2010. Performance of Matrix-Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry for Identification of Bacterial Strains Routinely Isolated in a Clinical microbiology Laboratory. *J. Clin. Micro.* 48:1549-1554.

Seng, P., M. Drancourt, F. Gouriet, B. LaScola, P.E. Fournier, J.M. Rolain, and D. Raoult. 2009. Ongoing Revolution in Bacteriology: Routine Identification of Bacteria By Matrix-Assisted Laser Desorption Ionization Time-of-flight Mass Spectrometry. *Clin. Infect. Dis.* 49:543-551.