

Michael Alexander

MIDI Inc., USA

Rapid fatty acid and microbial identification using the MIDI sherlock[®] microbial identification system

MIDI, Inc. is a privately held, veteran-owned biotechnology company based in Newark, Delaware, USA. The company has been developing rapid microbial identification products and solutions for environmental and clinical microbiology laboratories since 1991. The company was founded by Dr. Myron Sasser, former Professor of Plant Pathology at The University of Delaware, USA.

Microbiology laboratories worldwide have relied on the MIDI Sherlock[®] Microbial Identification System (MIS) for rapid microbial identification and phospholipids fatty acid analysis (PLFA). The Sherlock MIS technology uses gas chromatographic analysis of fatty acid methyl esters (GC-FAME). The Sherlock MIS Software controls a MIDI-configured Agilent Technologies GC, names the individual fatty acids in the sample and identifies the sample by comparing the GC-FAME profile to stored libraries of well-characterized strains. Post sample analysis can be used for strain tracking and microbial community profiling.

The Sherlock MIS can be used in conjunction with several sample preparations depending on customer need, or a customer can develop their own protocol and libraries. The 90 minute Traditional method is the most well-established and is in use by most customers. Instant FAME[™] was released in 2007 and is a 3 minute sample preparation method geared to environmental laboratories. Q-FAME[™] was released in 2010 and is a 15 minute sample preparation method geared to clinical laboratories. Looking toward the future, MIDI is focusing efforts on non-microbial ID solutions, such as PLFA. A new PLFA method, peak naming table and calibration standards were released in 2012.

Biography

Mr. Michael B. Alexander is the Director of MIDI's Training Operations, MIDI's Senior Support Engineer and Asia-Pacific Senior Speaker. He has given over 25 international talks (mostly in Asia) and conducted many MIDI Training Courses throughout the globe in the last 10 years. Mr. Alexander being MIDI Team Leader for our HPLC and PLFA Development Programs. was involved with creating the new PLFA method, and was involved in the development of a new PLFA extraction protocol created with Dr. Jeffrey Buyer at the USDA-ARS (Beltsville, MD USA). This is widely accepted in the Agriculture and Plant Pathology communities, Agriculture Research Service (USDA-ARS) (United States Department of Agriculture-United States Department of Agriculture), where the MIDI Sherlock[®] System is used primarily for plant and soil analysis. Mr. Alexander has vast experience with gas chromatographic (GC) and high performance liquid chromatographic (HPLC) analysis of fatty acids for microbial identification and manufactures all consumables for these systems.

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