MPOB MICROBIAL IDENTIFICATION SYSTEM 1 (MIDS 1)

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MPOB Microbial Identification System 1 (MIDS 1) utilises the Biolog® (*Figure 1*) which is a microbial identification tool based on biochemical analyses. Biolog® was developed in 1989 by Biolog, Inc. and well-known for its ability to identify and characterise microorganisms. It is an identification system for bacterial, yeast and fungi using a microplate that analyse a microorganism in 94 phenotypic tests and 23 chemical sensitivity assays. It requires no gram staining and offers a simple and user-friendly operation with minimum sample preparation protocols. This system exhibits high level of accuracy especially in identification of aerobic bacteria. MPOB MIDS 1 provides an extensive applications for microbial community analysis in soil, water and natural environment. To date, it can identify 1872 different taxa of bacteria and yeast as well as 619 different taxa of fungus.

OBJECTIVES

- To provide instrumentation for microbial identification using biochemical test.
- To update databases continuously.

PRINCIPLES

The system makes use of over 95 different carbon sources including sugar, carboxylic acids, amino acids and peptides (*Figure 2*) to determine microbial identity based on biochemical characteristics. The microbes are analysed using the MicroPlate™ technology. By applying PCA (principal component analysis) to the MicroPlate™ data, relationships between microbial communities can be observed. The strains of microbes from various environments were analysed based on their carbon utilisation fingerprints. This system employs novel redox chemistry where the reaction is based

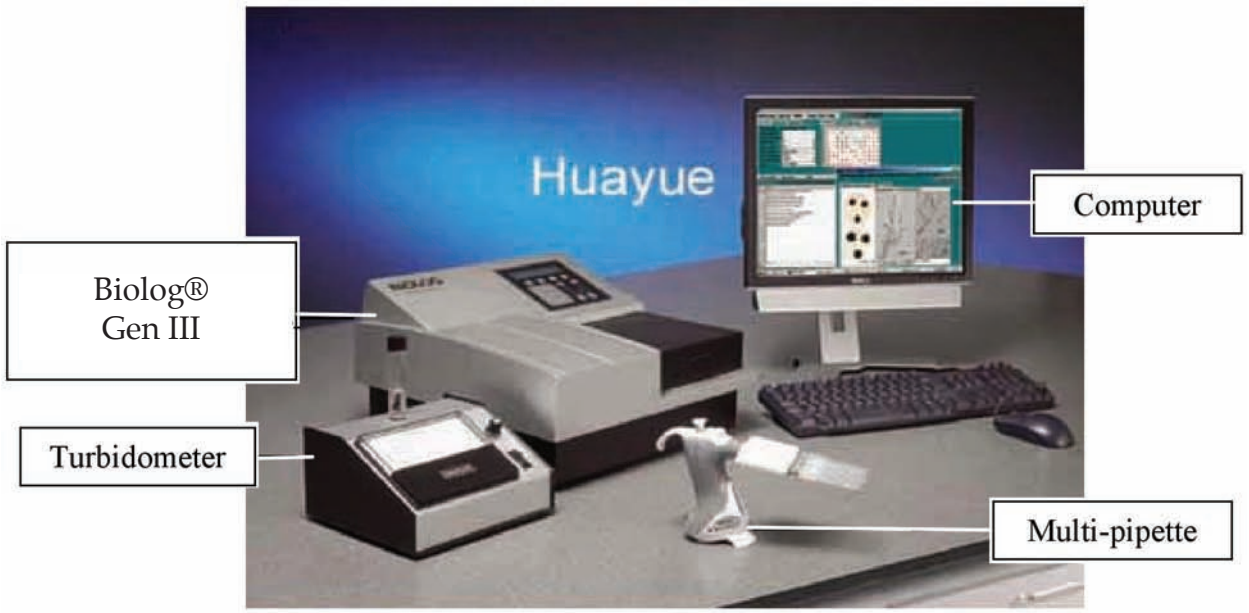

Figure 1. Microbial Identification System 1 (MIDS 1)(www.instrument.com.cn).

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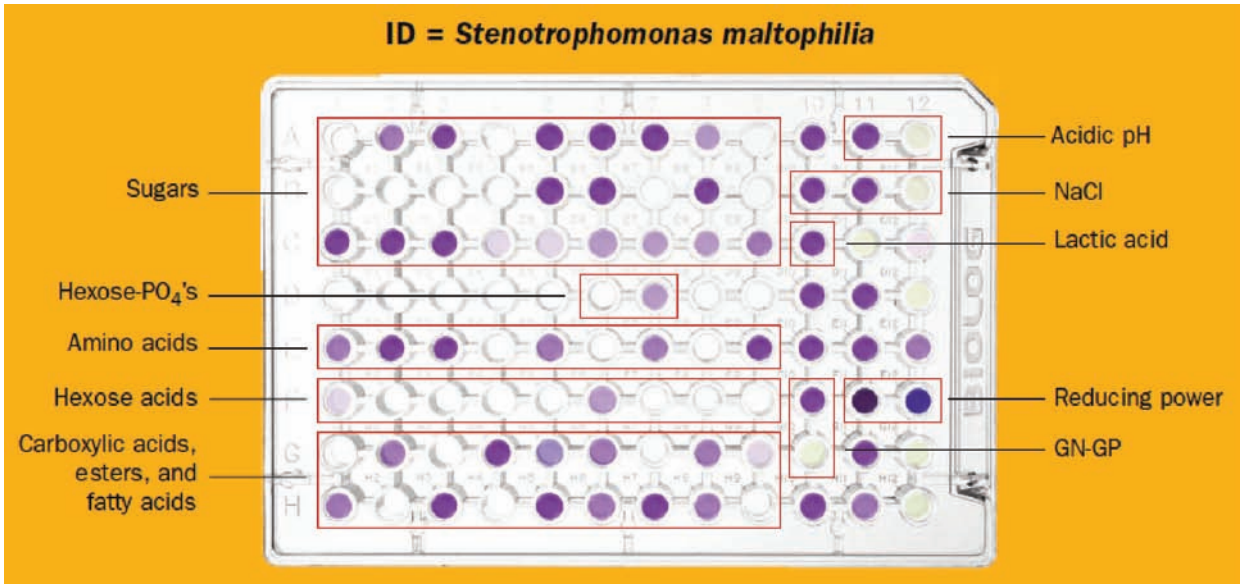

Figure 2. Carbon source tests and chemical sensitivity assays.

on the reduction of tetrazolium. It responds to the process of metabolism rather than to metabolic co-products.

BENEFITS

- Identification of a large number of microorganisms.
- Microbes characterisation and profiling via metabolic analysis.

SERVICE

The fee of identification for a strain of bacteria is RM 1000 and for a strain of fungus is RM 1100. The fee may be revised without prior notice.

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