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## **Unimore Microbial Culture Collection as a bioresource for the industrial exploitation of Acetic Acid Bacteria**

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### **Introduction**

The Microbial Culture Collection of the University of Modena and Reggio Emilia (UMCC); [www.umcc.unimore.it](http://www.umcc.unimore.it)) is an internationally recognized collection. UMCC had recently become partner of the Joint Research Unit MIRRI-IT (<http://www.mirri-it.it>), which is the Italian network of microbial resources collections. UMCC is specialised in selection of microorganisms for both academic and industrial purposes. Above yeasts and lactic acid bacteria, UMCC holds acetic acid bacteria (AAB) strains collected from different kind of vinegars, fermented juices and kombucha tea. UMCC serves as a primary bioresource for the industrial exploitation of AAB strains.

### **Methods**

The UMCC activity is finalized to selective strain isolation, polyphasic identification, and technological characterization of strains for different industrial needs. Technical platforms of UMCC include specialized facilities such as equipments for microbiology and molecular biology, as well as a computer-controlled fermentor. All the tests performed on UMCC strains are recorded in the interoperable database BioLMICS NET (BioAware/ <http://umcc.bio-aware.com/>).

### **Results**

As a result, UMCC has unveiled the biochemical and genetic background of different AAB allowing the assessment of the technological stability of industrially useful strains (Gullo et al. 2012). Moreover, the researches performed has implemented the maintenance of the cultures in collection and the potential exploitation of AAB strains by pharmaceutical, medical, chemical and food-grade industries.

### **Discussion**

The microbial culture collections have a crucial role in maintenance of microorganisms with preservation methods able to guarantee strain authenticity and stability for a long time. Moreover, they are responsible for cataloging and sharing detailed information on the collected strains (Stackebrandt, 2010). In this contest, UMCC acts as a comprehensive platform that combines phenotypic and molecular traits with industrial strain performance. UMCC offers innovative research and scientific services to customers and stakeholders in order to exploit the AAB diversity for novel and functional starter cultures.

## References

Gullo M, Mamlouk D, De Vero L, Giudici, P (2012) *Acetobacter pasteurianus* strain AB0220: Cultivability and phenotypic stability over 9 years of preservation. *Current Microbiol* 64(6):576-580.

Stackebrandt E (2010) Diversification and focusing: strategies of microbial culture collections. *Trends Microbiol* 18:283-287.