Collection of microorganisms (acronym MIUG)

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Established in 1975, the MIUG collection holds over 500 strains of bacteria, yeasts and fungi.

The MIUG fungi collection is part of a trusted resource center which houses a high microbial diversity of filamentous fungi and yeasts that are thoroughly represented by over 100 species and strains. The most representative yeast genera are: *Yarrowia* spp., *Kluyveromyces* spp., *Saccharomyces* spp., *Rhodotorula* spp., *Candida* spp. etc. The strains are of an industrial importance as producers of bioethanol, food fermentation, pigments, single cell proteins, lipase activity etc. The most significant mould genera are: *Aspergillus* spp. (*A. niger, A oryzae*), *Trichoderma* spp., *Penicillium* spp., *Thermomyces lanuginous, Rizoctonia* spp., *Rhizopus* spp., *Mucor* spp., *Trametes* spp., *Lenzites* spp., *Bjerkandera* spp., *Irpex* spp. etc. The biotechnological value of the MIUG mould strains are correlated, in principal, to their potential to produce several enzymes such as: amylases, proteases, pectinases, xylanases, cellulases etc.

The MIUG bacteria collection is a diversified assemblage of prokaryotes, containing more than 400 strains. The most valuable strains belong to the following genera of lactic acid bacteria (*Lactobacillus* spp., *Leuconostoc* spp., *Streptococcus* spp., *Wiessela* spp. etc), also artisanal kefir grains and to other types of bacteria like *Streptomyces* spp., *Bacillus* spp.. The strains have probiotics properties and are also good enzymes, antimicrobials, exopolysaccharides, pigments producers (lipases, amylases, proteases, transglutaminases, invertases, xylanases etc.), that have a great impact in food fermentation, functional food production, food preservation and food safety. The selected strains are also useful in the bioconversion and bioremediation processes and for the pests' control. Some strains have the ability to grow under extreme pH, temperature, water activity, and salinity conditions, due to the fact that they were isolated from Antarctic soils.

Since 1988, the MIUG collection is affiliated to the collection of the National Institute for Chemical - Pharmaceutical Research and Development (ICCF) (www.wfcc.info/ccinfo/collection), which is in term affiliated to the *Microbial Resource Research Infrastructure* (MIRRI) (www.mirri.org/legaldocuments.html).

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