

Efficient CELL DISRUPTION System MMZA

Equipment testing with fungi and bacteria

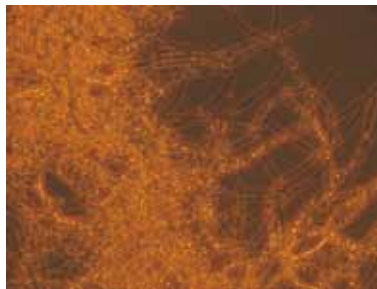
As cell disruption methods are called, in which cells are destroyed in order to gain access to their content. DNA, proteins, RNA, secondary ingredients, but also heterologous made products (such as vaccines) are of interest.

When deciding on the decomposition method can yield the desired protection and cell contents in the center. Each of the known methods has significant drawbacks, many are marked by heavy losses, while others are not scalable, or require chemical and enzymatic steps.

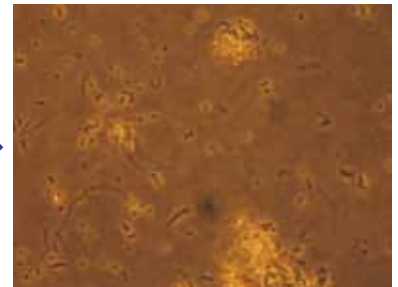
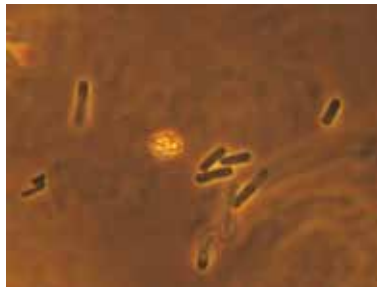
Here we present a new, purely mechanical method, which is characterized by high yields, short residence time and gentle digestion in reference to proteins.



filamentous fungi
Scopulaiopsis pluvialis
before and after digestion



bacteria
Escherichia coli
before and after digestion



Up to 99.9% yield in the digestion of cells from 10 microns

Table 1: Comparison of disruption rates between MMZA and cell disruption by high-pressure homogenizer (gold standard). The same or better digestion rate, the benefits of MMZA scalability, increased throughput and blunt-protein.

	Gold Standard			MMZA		
	DNA	protein	Secondary metabolites	DNA	protein	Secondary metabolites
fungi	+++	+	++	+++	+++	+++
backeria	+++	+	++	+++	+++	+++

Applications

- Gentle protein extraction
- Recovery of secondary materials content for pharmaceutical purposes
- proteome (Total protein of a cell)
- DNA and RNA extraction for molecular biological purposes
- Extraction of vitamins, enzymes, vaccines ...
- homogenization



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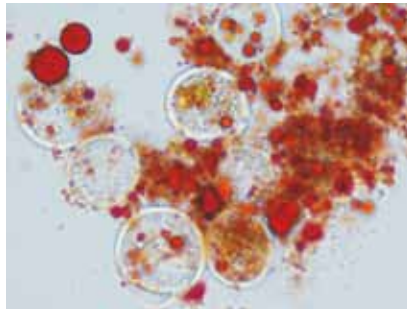
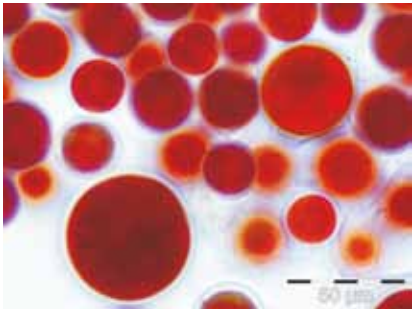
Laboratory Devices for Automated Sampling

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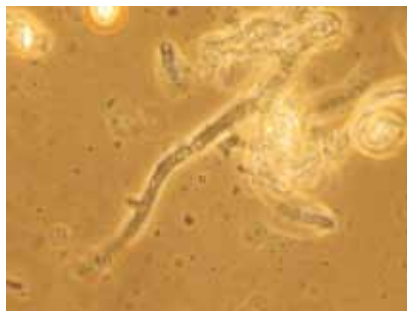
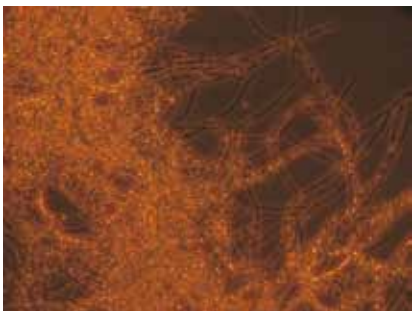
Mechanical cell disruption of microorganisms,
plant and animal cells for laboratory use

before

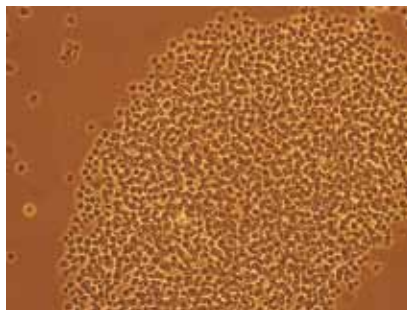
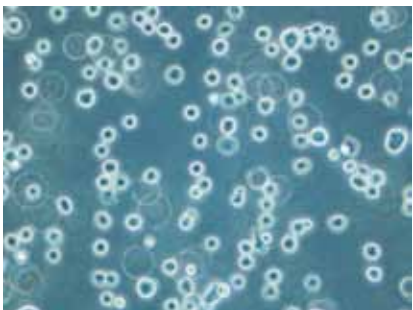
later



Microalgae: *Haematococcus pluvialis*



Fungi: *Scopulariopsis brevicaulis*



Human cell-line

- 99.9% digestion level of 10 µm cell diameter
- Perfect for algae, fungi, yeasts, eukaryotic cells, bacteria, etc.
- Efficient sample preparation in the ml-scale
- Optimal release of the ingredients for isolation / analysis
- Short time for digestion
- No thermal stress



The revolution in the field of
mechanical cell disruption



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Mittelstand

Laboratory Devices for Automated Sampling