BioRam® for label-free and non-invasive cell analysis

BioRam® is a confocal Raman-Trapping-Microscope optimized for biomedical use.

With BioRam®, Raman spectroscopy is as easy as light microscopy. The inverse Raman microscope is the ideal platform for novel cell analyses, advanced medical diagnosis and quality assurance of cell based products. It provides the necessary conditions for direct measurements of native cells, 3D-tissues, grafts or fluids.
Applications with Raman spectroscopy are very versatile. Whenever only small sample amounts are available or problems arise with antibody-based markers, Raman spectroscopy is the tool-of-choice as it enables non-invasive measurements under physiological conditions. With this, analyzed cells remain vital and intact for further cultivation and downstream analyses. Living or fixed cells in culture or histological tissue sections can be analyzed as well as cells in 3D-cell cultures or scaffolds. In addition, also solid material and fluids, like cell supernatants, vaccine , etc. can be measured.
Due to its sophisticated setup, BioRam® includes an optical trap which ensures that specimen in solution are captured within the laser focus during Raman analysis - resulting in most reliable spectra even of motile samples. In addition, cells and particles can be moved and positioned using this trapping effect.

Together with partners from research and industry we could prove the large potential of BioRam®.

Amongst others we could:

- characterize diseased or infected cells
- determine tumor aggressiveness
- discover smallest amounts of biomarkers
- monitor trans-differentiation of tumor cells
- identify differentiation potential of stem cells
- monitor quality of cell based products
- measure/follow cell reaction upon drugs or toxins

The data obtained with BioRam® have been confirmed by common methods, like FACS, MACS, immune-cytochemical procedures, patch-camp, DNA or RNA arrays.
These methods, however, require large amounts of cell material and are time- and cost intense. Furthermore, most of the methods are endpoint analyses impairing cell viability.
Besides analyzing biological and medical samples for research and development BioRam® can also be used for quality control of inanimate matter such as scaffolds, matrices, cell culture material or vaccines and much more.

We are sure that you will benefit from the advantage of BioRam® in your routine work:

- speed-up cell analyses
- enable easier process monitoring
- prevent cost and labor intense preparation
- obtain a quick survey on active substance response
- control quality of cell cultures or cell-based products

CellTool has established a professional **Service-Lab** for system demonstration, proof-of-concept measurements, research collaboration and contract work.
Come and see how easy it is. Measure your own samples.

Please feel free to share this information with your friends and colleagues.

Welcome in the world of Raman spectroscopy.

According to our motto:

Label-free and non-invasive cell analysis

Happy Cells –
Healthy People!

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