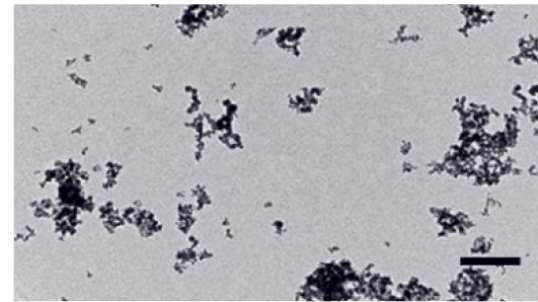
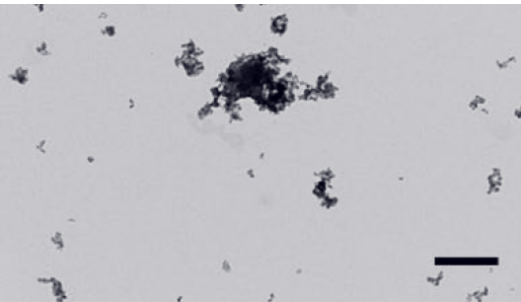


Advanced in vitro exposure systems



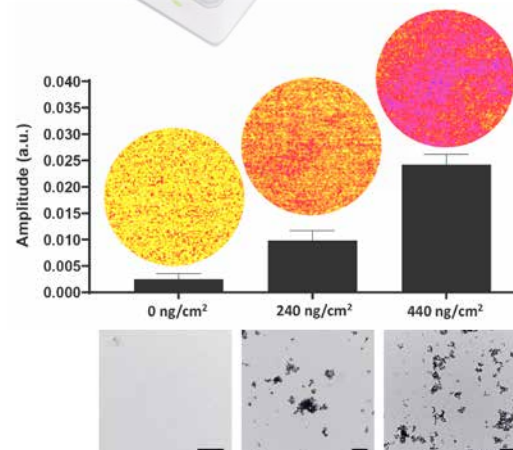
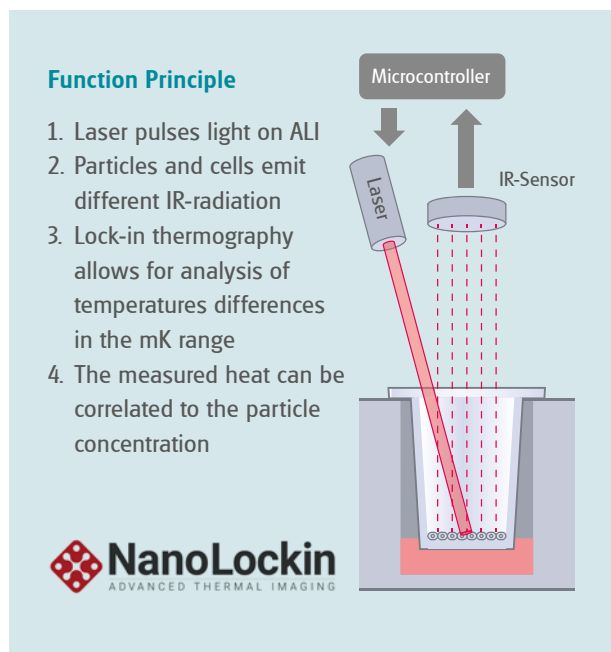
VITROCELL®
CalorQuanti

VITROCELL® CalorQuanti

An innovative optical dosimetry tool for real-time deposition monitoring

The latest innovation of online dosimetry assessment was developed in a joint project of NanoLockin and VITROCELL®. The new CalorQuanti can be used to optically analyze the particle dose in VITROCELL® Cloud Alpha Systems or as standalone unit.

It uses an innovative lock-in thermography system, which allows to measure the heating of particles upon light irradiation. The amount of heat produced can be correlated to the deposited dose.



Source: Adolphe Merkle Institute, University of Fribourg, Switzerland

IR-radiation can be correlated to particle concentration. Combustion particles deposited on lung cells were detected by lock-in thermography (upper figure) and visualized by transmission electron microscopy (lower figure). The thermal signal intensity was homogeneous at both concentrations and increased with particle levels.

Key Features:

- Allows for non-invasive, real-time dosimetry
- Particle deposition is measured on living cells, directly at the air-liquid interface
- Does not sacrifice a cell culture position in the exposure system
- Capable of analyzing particle types with darker color: combustion particles (e.g., diesel and aircraft emissions), tire wear particles, metal particles, break wear particles, carbon particles (graphene, carbon black and nanotubes)
- Also available as standalone version

About VITROCELL®

VITROCELL® exclusively concentrates on the developing, producing, installing, training and servicing of advanced *in vitro* exposure systems.

The VITROCELL® Systems' team is driven by their vision for new in-vitro standards through state-of-the-art technology, highly qualified workmanship and absolute client dedication. VITROCELL® has successfully collaborated with clients from leading research institutes, contract research organizations, regulatory authorities or industrial laboratories across the world. Working with our team experts, all modules have been tailored to create durable and complete turnkey-systems for *in vitro* inhalation toxicology. Gases, environmental atmospheres, nano particles and complex mixtures are analyzed on lung cells at the air/liquid interface using these systems. VITROCELL® technologies are also applicable to solutions for skin research.

Over a decade of devotion to research in this specific field has given our team of design & precision manufacturing specialists the opportunity to mentor highly diversified and complex projects from conception to completion. We strive to become a constructive member of each research team, providing support when it is needed, advice when it is required and modules of the highest quality, which are even polished by hand before leaving here to be integrated into your workspace. Every piece of our German engineered equipment is manufactured to the highest of standards – yours.

For more information please scan the QR-Code:



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