

SINTEF Materials and Chemistry, Department of Biotechnology and Nanomedicine will contribute with infrastructure from two research groups in the EU-NCL project. SINTEF is Scandinavia's largest independent research organisation, and is a private non-profit CRO. The involved research groups have collaboration projects with both academia, other research institutes and industrial partners and they are partner in several ongoing EU-projects.

The Research Group Biotechnology will perform two *in vitro* cytotoxicity analyses of nanomedicines in the EU-NCL project. SINTEF has dedicated facilities for cultivation and handling of cell lines located in close connection to a comprehensive high-throughput screening (HTS) facility. Together, these lab-facilities form a strong basis for advanced research focusing on assay automation using equipment for robotic liquid handling for cultivation studies, activity screens and cellular assays (e.g. *in vitro* toxicology). SINTEF has a large collection of in-house cell lines and microorganisms that is used in cell based activity assays. The facilities include three large liquid handling robotic workstations fully equipped for assay automation, flow cytometer, as well as dedicated plate readers for different types of readout. The facilities are also closely linked to SINTEF's advanced facilities for mass spectrometric analysis allowing label free HTS-analyses of metabolites using mass spectroscopy.

The Research Group Mass Spectrometry will contribute with advanced chemical analysis of the nanomedicines. This includes verification of drug (API) loading, drug release profile into complex media, and nanocarrier chemical composition.

SINTEF's lab is highly specialised in chemical analysis by mass spectrometry (MS), either free-standing or often coupled to separation techniques like gas, ion or liquid chromatography (GC, IC, LC), or field flow fractionation (FFF). The analytical challenges span a very wide range of research areas, including nanomedicine and manufactured nanomaterials, clinical analyses, industrial biotechnology, novel bioactive compounds and biopharmaceuticals, food and feed, process chemistry, oil and gas and inorganic trace elements. Notably, we also do MS imaging, i.e. label-free 2D 'chemical microscopy'.

Our infrastructure includes most modalities of MS and separation; 3x GC-MS, 4x LC-MS, 11x LC-MS/MS (9x triple quadrupole and 2x quadrupole-time-of-flight), 3x preparative HPLC (and LC-MS), IC, FFF (flow, centrifugal, and thermal), ICP-QqQ-MS/MS, MALDI-TOF/TOF and notably a 12T Bruker solarix ultrahigh mass resolution FT-ICR-MS, also used for MALDI-FT-ICR-MS imaging.