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Battelle Number(s):

15782-E

Patent(s) Issued

Available via licensee

Available Technologies

Device and System for Live-Cell Spectroscopic Analysis

SUMMARY

Fourier transform infrared (FTIR) and other types of spectroscopy are used extensively in the analysis of chemical and some types of biological samples. However, the full potential of this technique for toxicology related applications has not been realized for due to several challenges, with the lack of a means to keep the cells viable in a test cell while collecting spectra in situ being a major factor. This technology allows for live cells to be maintained over extended periods of time so that the impacts of different environmental factors and perturbations of the cells can be studied. The tool is thought to be particularly useful for studying the impacts of nanoparticle materials on live cells.

The technology includes an enclosure designed to produce an environment suitable for growing and maintaining the live cells for an extended period of time, a functionalized layer of materials to facilitate cell growth and attachment to the sample crystal, and a system for interfacing the device with a spectroscopic instrument. The technology has been used to study the impacts of silica nanoparticles and tumor promoters on live cells. It is specifically designed to work in conjunction with Attenuated Total Reflectance (ATR)/FTIR.

STATE OF DEVELOPMENT & AVAILABILITY

Exclusively licensed to Simplex Scientific. Interested parties should contact Simplex at info@simplexsci.com.



Patents & Intellectual Property

» Patent #: 7,956,328

Technology Portfolio(s)

» Other

Potential Industry Applications

» Healthcare, Pharma, Biotech & Medical

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