PROJECT FACTSHEET

EUNETAIR

New detection paradigm based on sensing technologies at low cost for air quality control.

3D-in vitro model resembling the alveolar anatomy

A — In vitro system — Aerosol chamber

B — In vivo anatomy of the alveoli — Alveolus — Surfactant

: Epithelial cells   : Cultivation well
: Macrophages   : Medium
: Mast cells   : Transwell™-Insert

Typ-I Epithelial cell   Typ-II Epithelial cell   Capillary
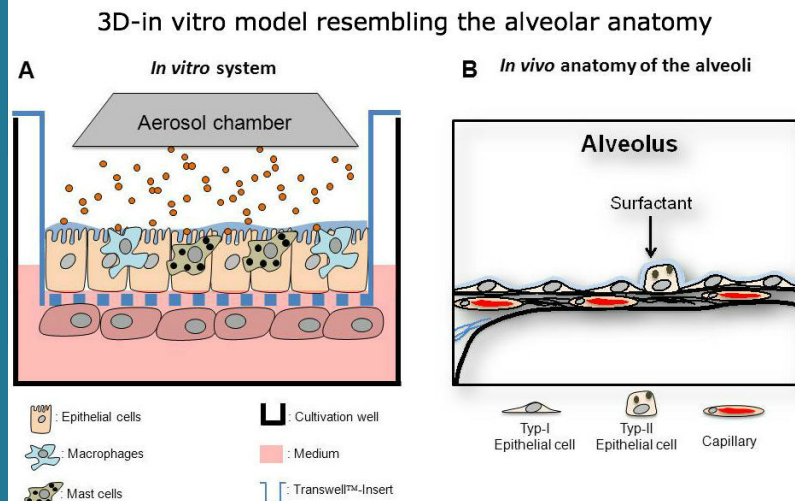
Inspiration

The state-of-the-art shows that research on innovative sensing technologies for air quality control is being performed at international level but still needs serious coordination efforts to boost new sensing paradigms for research and innovation. This encompasses research on advanced chemical sensors and sensor-systems, including functional materials and nanotechnologies for eco-sustainability applications, outdoor/indoor environment control, olfactometry, air-quality modelling, chemical weather forecasting, and related standardisation methods.

Innovation

The objective of EUNETAIR, an action of the intergovernmental European research framework COST, is to create a cooperative network to explore new sensing technologies for low-cost air-pollution control through field studies and laboratory experiments. It will aim to transfer the results into preventive real-time control practices and to achieve overall sustainability for monitoring climate changes and outdoor/indoor energy efficiency.

Impact

Establishment of such a European network, involving key non-COST experts, will enable the EU to develop world capabilities in urban sensor technology based on cost-effective nanomaterials. It will contribute to the formation of a critical mass of researchers to enable cooperation in science and technology, including training and education. This will lead to the coordination of outstanding R&D and promote innovation towards industry, as well as provide support to policy-makers.

Partners

Italian National Agency for New Technologies, Energy and Sustainable Economic Development - ENEA (IT)

Financial Support

European Cooperation in Science and Technology (COST) , European Union (COST programme)

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