Master project

Development and characterization of inflammatory models in vitro using 3D culture systems

Model systems of inflammatory and autoimmune conditions are essential for mechanism of action studies, proof of principle experiments and efficacy evaluation in the preclinical stage of drug development. In order to predict clinical effects in patients, models have to closely resemble the mechanisms leading to disease in patients and both in vitro and in vivo models are used to build evidence for a possible successful clinical trial. In vitro models have traditionally had major limitations in predictability when comparing to the in vivo effects but through the use of 3D cultures, mimicking the structures in which cells resides in vivo, better predictability can be achieved. Initial evaluation of novel potential drugs in such systems can increase likelihood of selecting biologically relevant substances for in vivo proof of concept studies, thus reducing the number of inactive drug candidates in in vivo experiments.

Redoxis is a preclinical research company with focus and expertise in inflammatory models. We work on a contract basis with other companies to evaluate and characterize new potential therapies in our experimental systems. In collaboration with Cellevate, a biotech company using nanomaterials to develop the next generation 3D cell culture systems, we are now looking for a student interested to perform a master project (at least 6 months duration) as a collaboration between the two companies. In this project you will develop and characterize new ex vivo models for skin inflammatory diseases, characterization of effects of reference drugs and potentially assisting in bringing a service to market at the end of the project. The project will involve both practical lab work with cell culturing as well as in-depth theory and engineering of 3D nanofiber networks.

The project will also include a wide span of methods ranging from handling of nanomaterial to evaluating effects on the immune system in cellular systems (flow cytometry, ELISA and Luminex).

We are looking for a curious and motivated student with previous experience of lab work, preferably with knowledge of cell culture and work under sterile conditions.

Application is sent to info@redoxis.com or info@cellevate.com