



Exploring permeability and cellular retention of small and large molecules in novel *in vitro* lung model

Thesis work

Drugs are typically very rapidly absorbed from the lung to the systemic circulation following administration via inhalation. Dissolution rate and permeability are the key determinants of the rate of absorption from the lung. The lung is a heterogeneous organ with many different cell types and structures and the cellular composition and thickness of the epithelial cell layer changes throughout the respiratory tree. Depending on where the particle lands after inhalation the barriers for permeability will most likely differ, however this needs further investigation. By conducting a thorough characterization of two cell lines derived from different parts, i.e the bronchial and alveolar region, of the lung we are one step closer to understand the possible differences in permeability in the lung. The work is to be conducted from January 2018 until June 2018.

Your role

You will be primarily responsible for conducting *in vitro* work in order to characterize two novel cell lines from the bronchial and alveolar region of the lung. This will include i.e. investigations of permeability and absorption of small molecules and large molecules from the new modalities space such as peptides and anti-sense oligonucleotides (ASOs) and drug analysis by LC-MS/MS and/or hybridization assays.

Your experience

You are currently pursuing a Master's degree in biomedicine, pharmacy or equivalent.

More information

For enquiries and more information regarding the project call Erica Bäckström at +46317761516 or erica.backstrom@astrazeneca.com

Welcome with your application including your CV and personal letter, no later than 30th October.