

Looking for a high throughput system to evaluate topical drug delivery

The skin is an attractive site for drug delivery, providing the largest interface between the human body and the external environment. Skin acts as an effective barrier to drug absorption. Understanding the parameters that affect the permeability of this barrier is essential for achieving successful drug therapy via the skin. Skin permeation/penetration model is a widely used tool for the study of percutaneous absorption and the pharmacokinetic profile of topical drugs. This *in vitro* method is an essential tool for the development and screening of formulations, predicting *in vivo* cutaneous absorption. Current methods require a lot of manual intervention and are expensive and time-consuming.

In order to streamline the testing process, Almirall, through his Open innovation initiative, AlmirallShare, is seeking collaboration partners who are capable of designing an automated, high throughput system to evaluate the permeation/penetration profile, with small dosing areas and optimum receptor fluid flow to be able to generate more accurate flux profiles.

More information at <https://www.innocentive.com/ar/challenge/9933991>



Overview

Delivery of medications through the skin has shown significant advantages in clinical practice for drug targeting to the action site in the body, reducing the systemic side effects. It is also more advantageous than traditional routes of administration (e.g. oral, intravenous) for a number of reasons such as improved patient compliance, ease of application, and avoidance of first pass metabolism.

Percutaneous absorption most commonly occurs via passive diffusion through the intercellular lipid matrix (intercellular and transcellular route) and is governed by chemical properties. For example, low molecular weight and high lipid solubility significantly enhances skin penetration. To complicate

matters, the skin is a heterogeneous organ and differences occur based upon age, gender, health, and anatomical site.

In vitro skin delivery is necessary to predict the human *in vivo* bioavailability, efficacy and safety for topical and transdermal formulations. Successful proposals should focus on technologies and approaches capable of generating accurate permeability profiles in human and animal skin using an automated and high throughput system.

This is an electronic Request-for-Partners (eRFP) Challenge. The Solver will write a preliminary proposal (maximum of 10 pages, including supporting non-confidential information and contact details) to be evaluated by Almirall with a goal of establishing a collaborative partnership. Upon completion of the evaluation, Almirall may contact selected Solvers directly to work out terms for a collaboration contract. The monetary value of the contract will vary depending on the amount of work to be delivered and the agreed time frame.

[NOTE: Only proposals from Solvers who have the ability to work as a collaboration partner will be considered.]

Submissions to this Challenge must be received by 11:59 PM (US Eastern Time) on October 29th, 2017. Late submissions will not be considered.