

Special Issue

Alternative Methods to Animal Testing on the Assessment of Drug Permeation Across Different Barriers, Focusing on the Skin and Eye

Message from the Guest Editors

The number of animals used in research has significantly increased with the advancement of sciences and the development of medical technology. This has led to an increasing demand and implementation of alternatives approaches that can partially or entirely replace laboratory animals, also in line with the guiding principles of the 3Rs (Replacement, Reduction, and Refinement). Mainly, there are two alternatives to in vivo animal testing: the use of cell culture to develop 2D assays or more complex 3D structures and the application of in silico computer simulations. The development of new drugs or delivery systems involves a plethora of tests on animals, including assays to evaluate the ability of molecules to permeate membranes and tissues of our body. This Special Issue will focus on in vitro and in silico alternative methods to the use of animals for drug permeation studies across the ocular and cutaneous barriers.

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