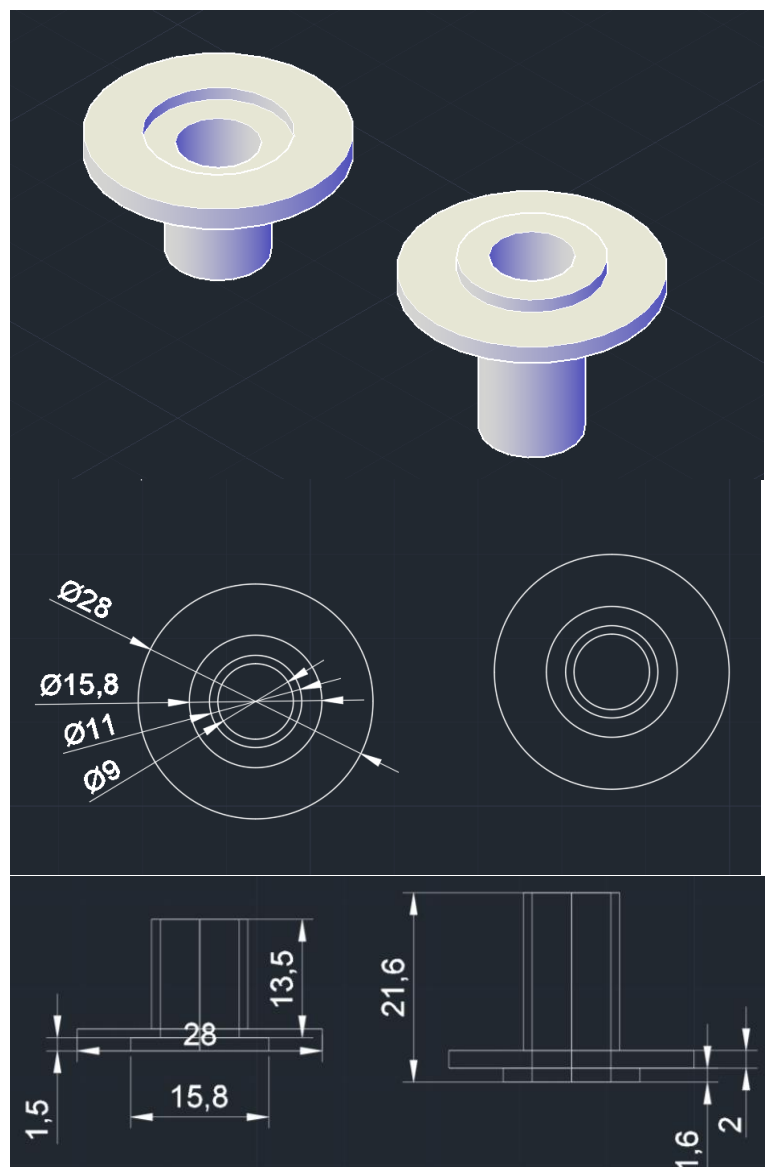


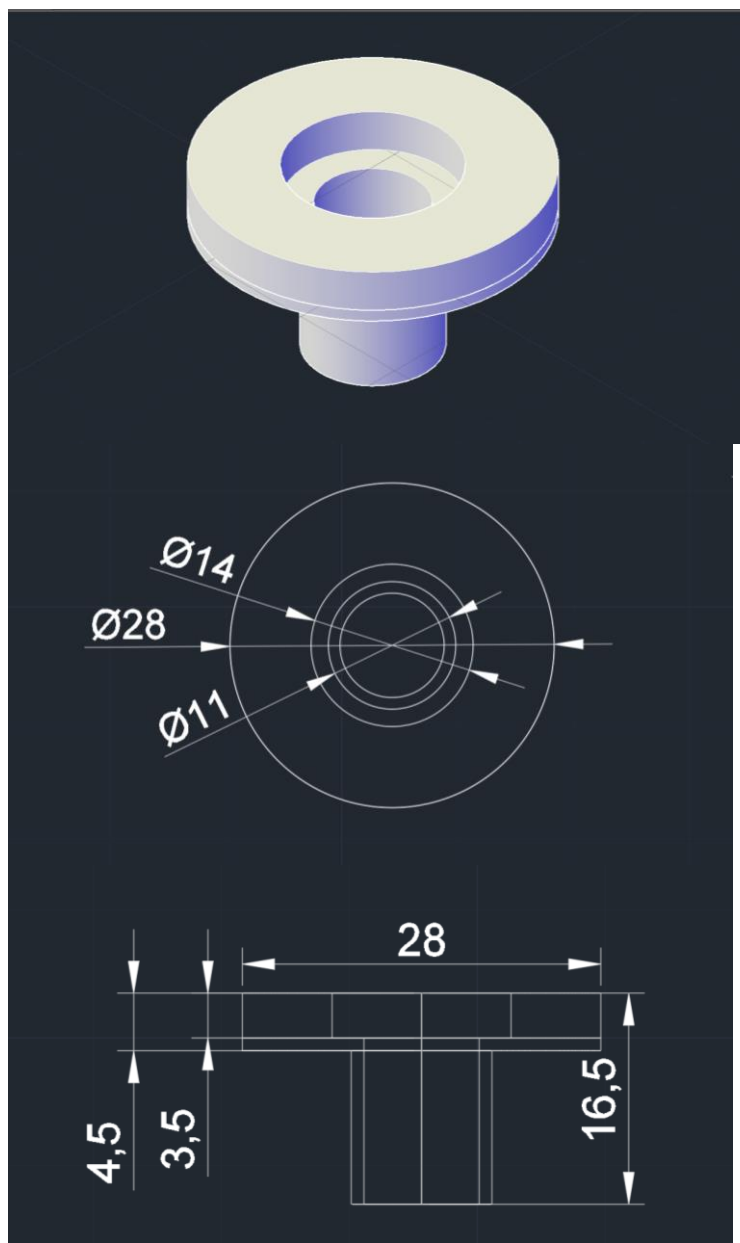
# Open-source Human Skin Model with an *In Vivo*-like Barrier for Drug Testing

## Supplementary Data



**Fig. S1: AutoCAD designs of the tailor-made full thickness skin model (FTSm) adapter to correctly seal and place the tissue in the center of a Franz Cell**

The Adapter consists of 2 parts and is designed to fit exactly into a 16 mm Franz Cell. The lower part has as a small cavity to take up the FTSm. The upper part tightly fixes the margin of the skin model while leaving open an exposure area of 9 mm in diameter. The design facilitates dermal absorption assays under standardized conditions. Dimensions are in mm. Different views: isometric, top and front.



**Fig. S2: AutoCaD designs of the tailor-made adaptor for reconstructed skin models (RHEm) grown in Millicell® standing cell culture inserts to correctly seal and place the tissue in the center of a Franz cell**

The adaptor consists of one part and is designed to fit exactly into a 16 mm Franz cell. The lower part has a central cavity to take up the insert well. An O-ring is fitted on the cell culture insert. The Franz cell upper part tightly fixes the margin of the skin model while leaving open an exposure area of 9 mm in diameter. The design facilitates dermal absorption assays under standardized conditions. Dimensions are in mm. Different views: isometric, top and front.



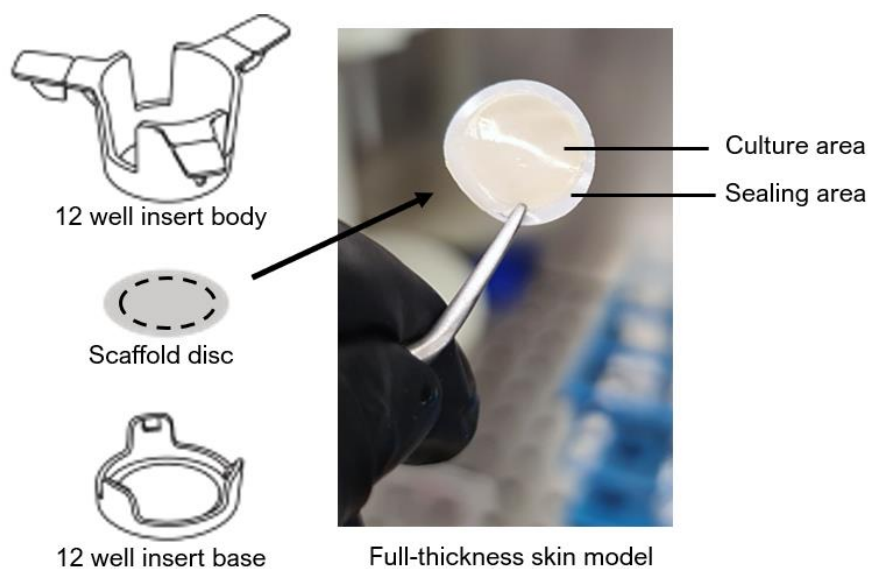
**Fig. S3: Experimental setup of the permeation testing using Franz cells**

Top: Photograph of fabricated tailor-made full thickness skin model (FTSm) adapters using 3D printing. The adaptor's lower part has a small cavity to take up the FTSm. The upper part tightly fixes the margin of the skin model while leaving open an exposure area of 9 mm in diameter. The design facilitates dermal absorption assays under standardized conditions. Dimensions are in mm. Different views: isometric, top and front.



**Fig. S4: Alvetex inserts showing at the center an extreme defect**

No epidermis is present in this area, resulting in low TEER values compared to a non-defective model.



**Fig. S5: Scaffold disc with a full-thickness skin model (FTSm) cultured for 12 days at ALI**

The effective culture area is preserved, showing no signs of contraction. The outer, sealing area does not fully prevent PBS leakage.