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[Biohybrid Systems]

Centre for International Research on Integrative Biomedical Systems

MEMS, Bio-nanotechnology, Tissue Engineering

Mechano-informatics Department / Multi-disciplinary Sciences Department

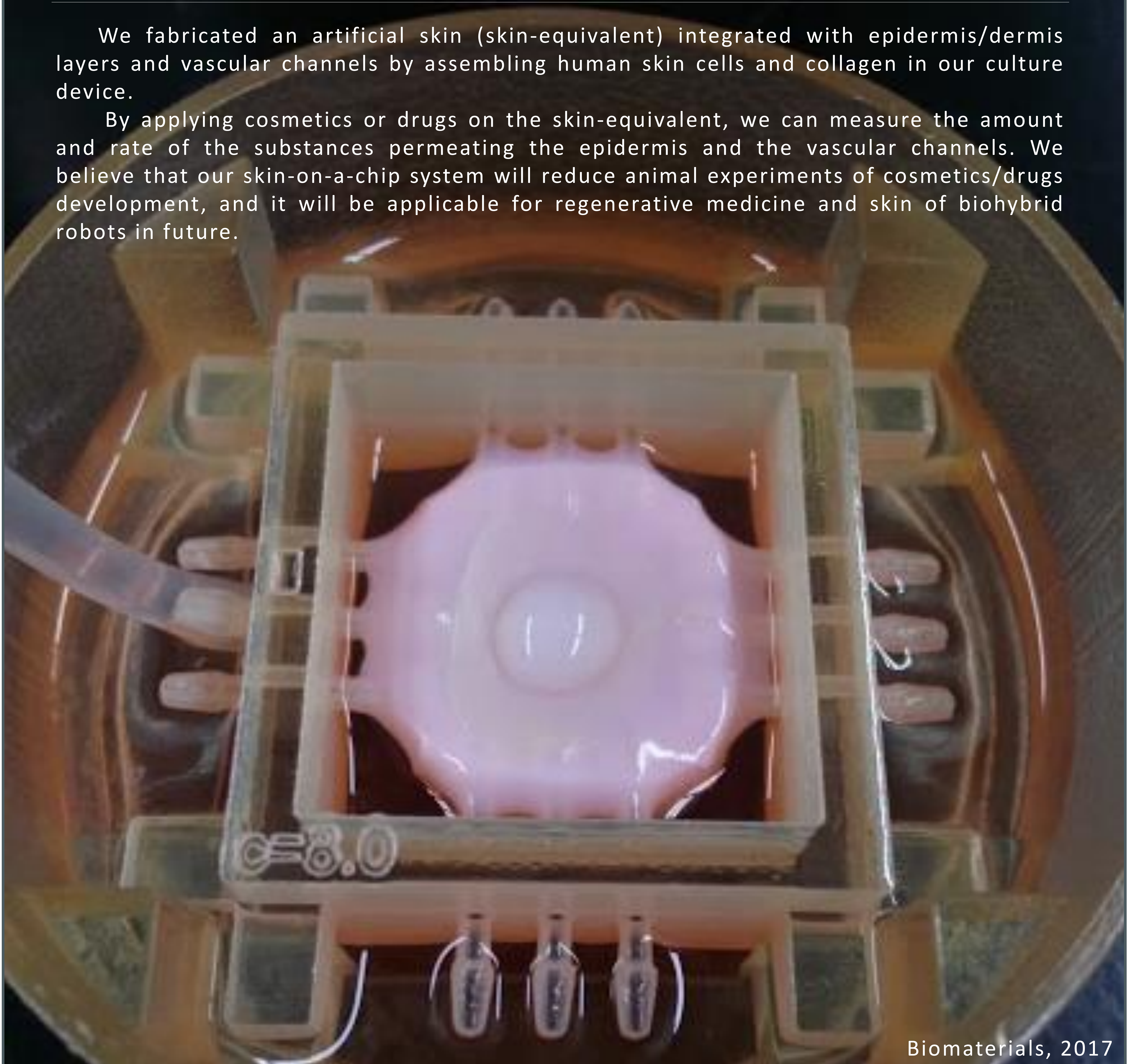
<http://www.hybrid.iis.u-tokyo.ac.jp/>

Skin on a Chip

Skin-equivalent Integrated with Vascular Channels

We fabricated an artificial skin (skin-equivalent) integrated with epidermis/dermis layers and vascular channels by assembling human skin cells and collagen in our culture device.

By applying cosmetics or drugs on the skin-equivalent, we can measure the amount and rate of the substances permeating the epidermis and the vascular channels. We believe that our skin-on-a-chip system will reduce animal experiments of cosmetics/drugs development, and it will be applicable for regenerative medicine and skin of biohybrid robots in future.



Biomaterials, 2017