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Article

Rapid Fabrication of Microfluidic Devices for Biological Mimicking: A Survey of Materials and Biocompatibility

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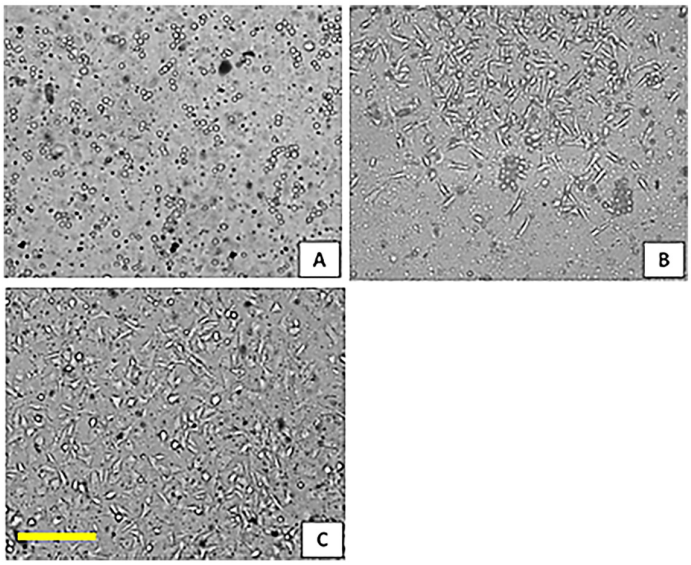

Figure 1. HUVEC cells proliferation on a piece of polyester film treated with oxygen plasma and fibronectin in the static conditions without culture medium perfusion, which were taken as the control experiment. A: time zero. B: 4 h. C: 24 h. Scale bar = 100 μm.

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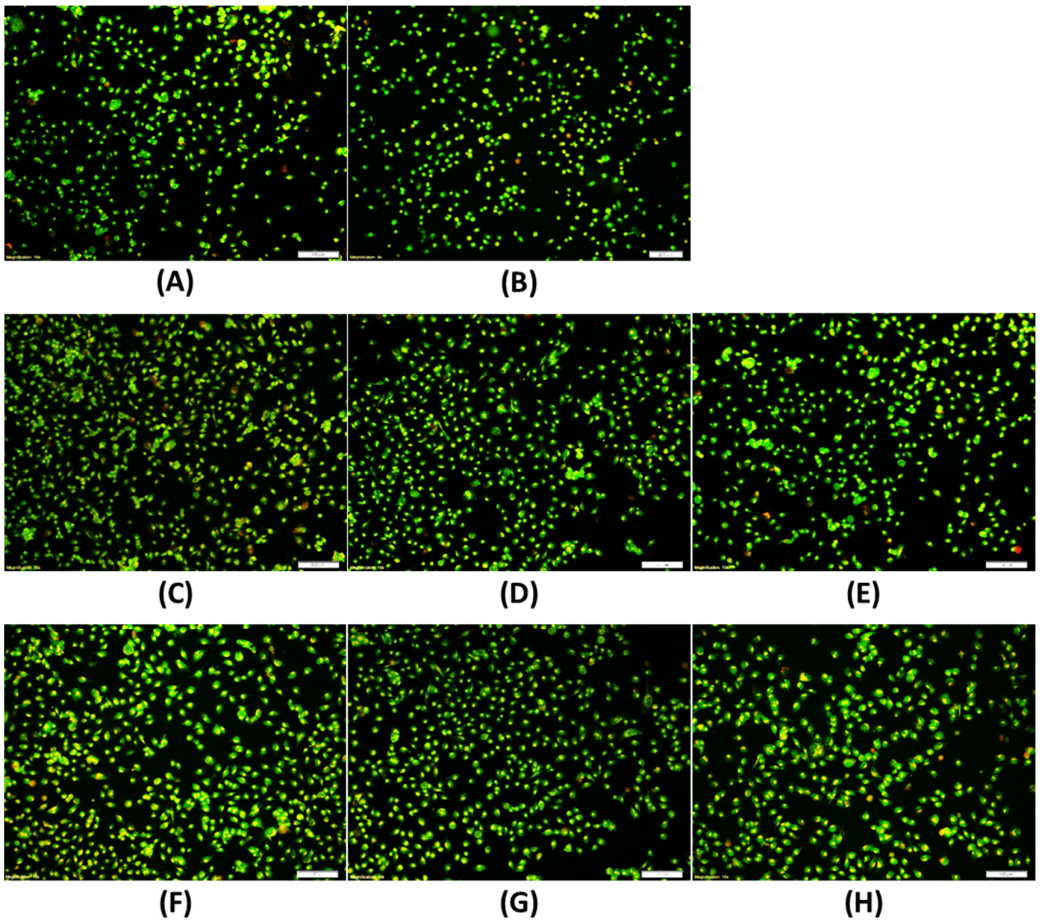

Figure 2. HUVEC (5×10^6 cells mL^{-1}) were stained with AO/EB (green dots correspond to live cells and red-orange dots correspond to dead cells) after 24 h of incubation at 37 °C with RPMI culture medium flow rate at 2 μL min^{-1} in the microchannel. A) PET microchip and B) polyester-vinyl microchip. The biocompatible double-sided adhesive microchips made with top-bottom layers: C) glass slide-glass slide, D) coverslip-glass slide, E) glass slide-Permanox®, F) polyester-Permanox®, G) glass-polystyrene slide, H) polyester-polystyrene slide. The Scale bar = 100 μm.

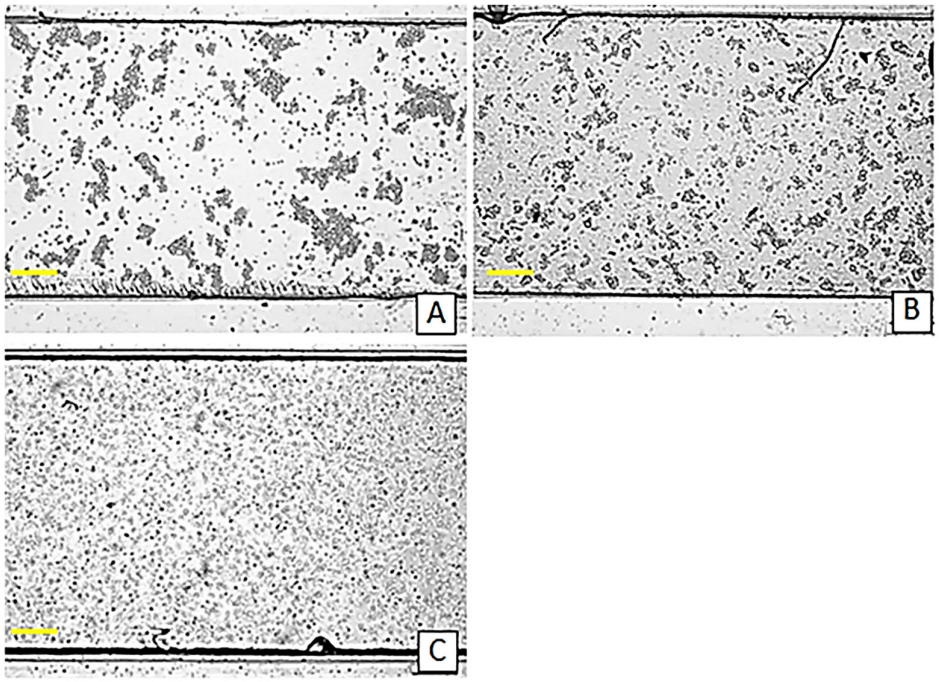

Figure 3. HUVEC cells proliferation under RPMI culture medium flow rate at 2 μL min^{-1} in the microchannel of polyester-Permanox® microchip.

A: 1 h B: 4 h. C: 24 h. Scale bar = 200 μm.

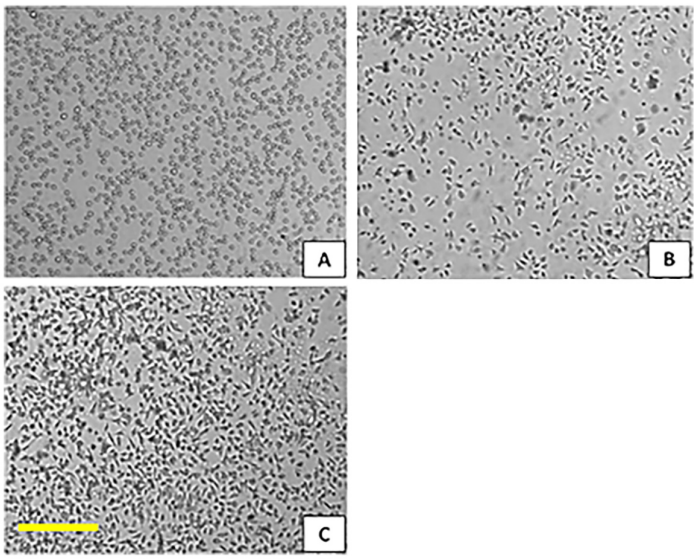

Figure 4. HUVEC cells proliferating on the 24-well plate (polystyrene surface) in the static condition. A: time zero. B: 4 h. C: 24 h. Scale bar = 100 μm.