Cover Photograph

The figure shows a polyurethane vascular prosthesis that was lined with human fibroblasts, smooth muscle cells, and endothelial cells. Using an immunohistochemical stain with an antibody against CD31, the endothelial cell layer appears dark brown–red on the luminal surface of the 4-mm vascular prosthesis. For counterstaining, peroxidase reaction was used, and the magnification was set to 100×. CD31 is a marker of viable endothelial cells interacting with thrombocytes in preventing thrombosis. The underlying polyurethane scaffold is not stained at all, whereas the spaces between the polyurethane fibers contrast in yellow. The once-rough luminal surface is completely covered by a cell layer with the endothelial cells on the luminal side. This results in a smooth athrombogenic surface, shown by the scanning electron microscope images in the article.[1]

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Reference

1. Gulbins H, Dauner M, Petzold R, Goldemund A, Anderson I, Doser M, et al. Development of an artificial vessel lined with human vascular cells. *J Thorac Cardiovasc Surg.* 2004; 128:372-7.