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## Cell Studies on Electrohydrodynamic (EHD)-3D-Bioprinted Bacterial Cellulose\Polycaprolactone Scaffolds for Tissue Engineering

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### Abstract

The application of three-dimensional(3D) printed scaffolds for tissue engineering have gained significant attention in recent years. The biological activity of scaffolds used in tissue engineering applications depends on fabricating high-resolution patterns with fiber orientation and scale. In this study, Bacterial Cellulose(BC) and Polycaprolactone(PCL) composite scaffolds with the line spacing of 100 $\mu$ m are produced using Electrohydrodynamic(EHD)-3D-bioprinting technique. The composite scaffolds exhibit enhanced biocompatibility with facilitated cell attachment and proliferation *in vitro*. The results of this work have demonstrated that EHD-3D-bioprinting method shows great potential for the preparation of BC/PCL composite scaffold and patterns for tissue engineering with enhanced bioactivity.

**Keywords:** EHD-3D-bioprinting; biomaterials; polymers; bacterial cellulose; polycaprolactone

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