

## Regenerated Bacterial Cellulose Scaffolds for tissue regeneration applications

Shaukat Khan<sup>1</sup>, Mazhar Ul-Islam<sup>1,2</sup>,  
Muhammad Wajid Ullah<sup>1</sup>, 김예지<sup>1</sup>, 장재현<sup>1</sup>, 노태용<sup>1</sup>,  
박중곤<sup>1,\*</sup>

<sup>1</sup>경북대학교; <sup>2</sup>Department of Chemical Engineering, College of Engineering,  
(parkjk@knu.ac.kr<sup>†</sup>)

The current study involves the fabrication of regenerated bacterial cellulose (rBC) scaffolds for *in vitro* tissue regeneration applications. BC was dissolved and salt was added as porogens followed by casting and solvent removal in water. The structure characterization of the synthesized scaffolds was carried out through Fourier Transform Infrared Spectroscopy (FTIR) and Field Emission Scanning Electron Microscopy (FE-SEM). FTIR indicated no alteration in chemical structure during regeneration while FE-SEM showed the porous structure of the scaffolds. *In vitro* biocompatibility tests showed good cell adhesion and proliferation on the rBC scaffolds while the cell toxicity assay confirmed their nontoxic nature. These results demonstrate our rBC scaffolds as potential candidate for tissue regeneration applications.