provided optimum conditions from Acetobacter xylinus. BC was transformed dialdehyde cellulose (DAC) as biodegradable form by treating with periodate. Oxidation was carried out in aqueous solution at 50°C in the dark for 24 hours. The mole-to-mole ratio of sodium metaperiodate to anhydroglucose repeat unit (AGU) of cellulose was 0.5, 1.0 and 1.5.

In order to test cell response to the developed scaffolds osteoblast-like cells (SaOs-2) were cultured on them during two weeks. Cell adhesion and morphology were analyzed by SEM while the cell viability and proliferation were assessed by MTS test and DNA quantification assays. Cell culturing experiments showed that cells were able to attach on their surfaces. However it was found that oxidation influenced cell viability, showing that there was an optimum oxidation degree for cell attachment. Besides the chemical properties of the surface, the morphology was also found to be dependent of oxidation degree. The one showed better ability for cell attachment (AGU/cellulose: 1.0) has the surface more porous which is a desirable property for a tissue engineering scaffold. Cell attachment and proliferation on these scaffolds were successful, whereas spreading of the cells on the material was not very favorable. Consequently, they can be used with surface modification or with bioactive agent for spreading the cells on the scaffold better.

**(P 232) Investigation of Osteoblast Response to Biodegradable Bacterial Cellulose Scaffolds**

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Aim of this project is to investigate the ability of bacterial cellulose (BC) and oxidized Bacterial cellulose (OBC) use as a scaffold in tissue engineering. Bacterial cellulose was produced with being