Supporting Information

Additive manufacturing of barium-doped calcium silicate/poly-ε-caprolactone scaffold activated CaSR and AKT signalling on osteogenic differentiation of mesenchymal stem cells

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Biocompatibility of BaCS scaffolds extracts

The indirect biocompatibility was investigated by following a revised version of ISO10993-5. First, we manufactured the 3d-printed BaCS scaffold which was subsequently washed with PBS twice, followed by sterilization in 75% ethanol at room temperature in a laminar flow for 60 min. To get the extracts of these scaffolds, the different groups were then soaked in Dulbecco's modified Eagle's Medium (DMEM) and placed in a 37oC incubator with the settings of 75% humidity and 5% CO2 for 24 h. Concurrently, WJMSC (104 cells) were cultured in a 96-well at 37oC for 24 h. Then, the medium was removed and replaced with 100 µL/well of the various scaffolds extract solution. After 1 day of cell culture, the extract solution was removed and replaced with 100 µL of MTT solution (5 mg/mL) in each well. The culture was then left to be incubated for 3 h in the dark. Then, MTT solution was removed and replaced with 100 µL of dimethyl sulphoxide to dissolve the formed formazan by MTT solution. A microplate reader was used to analyze for absorbances of each well.

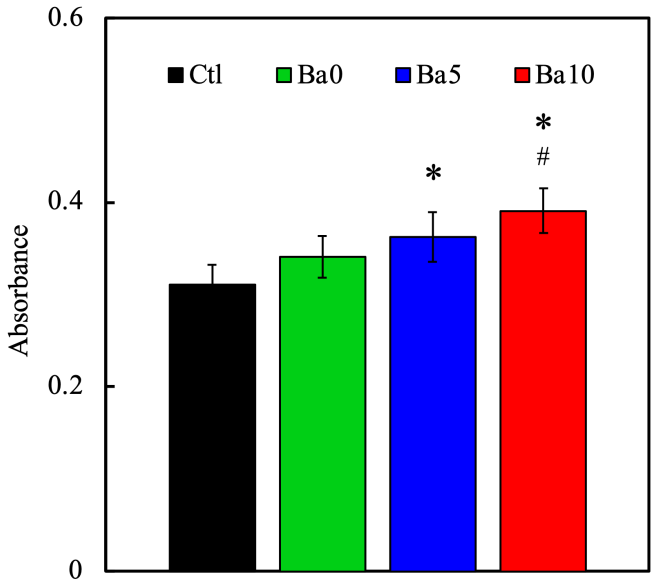

Figure S1. The biocompatibility of WJMSCs cultured on the extracts from scaffolds for 1 day. * indicates a significant difference ($p < 0.05$) from Ctl. # indicates a significant difference ($p < 0.05$) from Ba0. Data are presented as means ± SEM; n = 6 for each group.