

PS-079

Molecular Biological Evaluation and Mechanisms of Danggui Buxue Tang on Bone Tissue Regeneration

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Background & Aim :

A new biodegradable and osteoconductive GGT composite containing β tricalcium phosphate and genipin cross-linked gelatin, which has an excellent biocompatibility and capability to enhance bone tissue regeneration, has been prepared and confirmed in our previous studies. The traditional Chinese medicine for clinical application has been anecdotally reported to enhance bone healing.

Materials & Methods :

In this current work, Danggui Buxue Tang (DBT) with tonify qi and engender blood function was used and investigated in vitro the efficacy and safety on bone healing. We determined the optimal concentration of DBT for regenerative activity in bone cells via MIT, alkaline phosphatase (ALP), nodule formation and TRAP assays, and designed and tested a DBT-rich bone composite material.

Results :

The composite was fabricated by mixing GGT composite with the predetermined concentration of Danggui Buxue Tang (GGT-DBT). Additionally, Western blot and PCR were used to determine the possible signal transduction pathway of DBT inducing these biological effects of bone cells.

Keywords:

Bone composite, Chinese herbal medicine , Osteoblast, Osteoclast

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