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Recombinant Plasmid DNA Construct Encoding Combination of vegf165 and bmp2 cDNAs Stimulates Osteogenesis and Angiogenesis In Vitro

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Abstract

© 2016, Springer Science+Business Media New York.Though normally bone regenerates well, non-union, delayed union, or defective bone formation can occur. Since impaired healing is often caused by local trophic disorders, standard fracture management is often ineffective. Gene therapy is a promising field for bone engineering. We have created a recombinant plasmid construct encoding the genes for pro-angiogenic vascular endothelial growth factor 165A (VEGF165A) and pro-osteogenic bone morphogenetic protein 2 (BMP2) with kanamycin resistance (pBudKan-VEGF165A-BMP2). This plasmid has the potential for use in treatment of trauma and skeletal system disorders, especially in cases of low trophicity.

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Keywords

Angiogenesis, Bone morphogenetic protein 2 (BMP2), Osteogenesis, Plasmid, Vascular endothelial growth factor (VEGF165)

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