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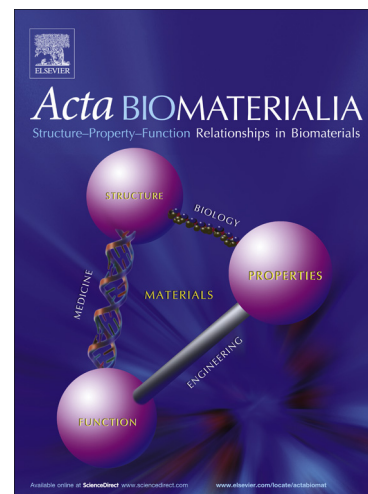
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Sustained delivery of glial cell-derived neurotrophic factors in collagen conduits for facial nerve regeneration

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Abstract

Facial nerve injury caused by traffic accidents or operations may reduce the quality of life in patients, and recovery following the injury presents unique clinical challenges. Glial cell-derived neurotrophic factor (GDNF) is important in nerve regeneration; however, soluble GDNF rapidly diffuses into body fluids, making it difficult to achieve therapeutic efficacy. In this work, we developed a rat tail derived collagen conduit to connect nerve defects in a simple and safe manner. GDNF was immobilized in the collagen conduits via chemical conjugation to enable controlled release of GDNF. The GDNF delivery system prevented rapid diffusion from the site without impacting bioactivity of GDNF; degradation of the collagen conduit was

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