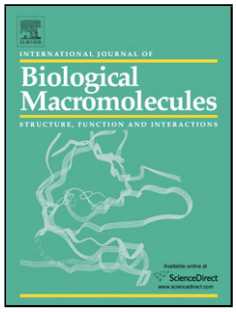

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Effect of chitosan and coagulation factors on the wound repair phenotype of bioengineered blood clots

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Abstract

Controlling the blood clot phenotype in a surgically prepared wound is an evolving concept in scaffold-guided tissue engineering. Here, we investigated the effect of added chitosan (80% or 95% Degree of Deacetylation, DDA) or coagulation factors (recombinant human Factor VIIa, Tissue Factor, thrombin) on inflammatory factors released by blood clots. We tested the hypothesis that 80% DDA chitosan specifically enhances leukotriene B_4 (LTB_4) production. Human or rabbit whole blood was combined with isotonic chitosan solutions, coagulation factors, or lipopolysaccharide, cultured *in vitro* at 37°C, and after 4 hours the serum was assayed for LTB_4 or