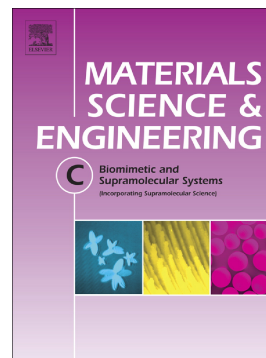


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**Regulation of macrophage polarization and promotion of endothelialization by
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Highlights

1. First report of *in vivo* anti-inflammatory phenotype transformation of macrophages by NO-generating vascular graft.
2. Combination of NO generation and EC adhesion to improve remodeling performance of vascular graft.
3. Simulation of natural endothelium to generate constant and stable flow of NO by loaded catalyst.

Abstract

As an effective clinic treatment for cardiovascular disease, vascular transplantation gains much acceptance recently. However, due to the acute thrombosis and intimal hyperplasia, long-term failure of synthetic grafts after implanted in small diameter blood vessel decelerates its commercial use. The continued acute inflammation and delayed endothelialization have been considered as fundamental reasons. To enhance the adhesion and organization of endothelial cells (ECs) and improve the vascular remodeling process, we have constructed a vascular graft based

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