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(54) **PRO-HEALING AGENT FORMULATION COMPOSITIONS, METHODS AND TREATMENTS**

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See application file for complete search history.

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(57) **ABSTRACT**

Pro-healing agent formulation compositions, methods and treatments for enhancing vascular healing are disclosed herein. In some embodiments, a pro-healing agent is encapsulated, suspended, disposed within or loaded into a biodegradable carrier for sustained-release delivery to a denuded or damaged endothelium treatment area in a blood vessel. In some applications, the pro-healing agent can accelerate re-endothelialization of a denuded vascular region. In some applications, the pro-healing agent can assist in the regaining of endothelium functionality. The formulation can be delivered by a delivery assembly such as an infusion catheter, a porous balloon catheter, a needle injection catheter, a double balloon catheter or the like.

**21 Claims, 9 Drawing Sheets**

