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(54) **METHODS AND COMPOSITIONS FOR TREATING TISSUE USING SILK PROTEINS**

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(58) **Field of Classification Search**

None
See application file for complete search history.

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(57) **ABSTRACT**

Compositions for forming a self-reinforcing composite biomatrix, methods of manufacture and use therefore are herein disclosed. Kits including delivery devices suitable for delivering the compositions are also disclosed. In some embodiments, the composition can include at least three components. In one embodiment, a first component can include a first functionalized polymer, a second component can include a second functionalized polymer and a third component can include silk protein or constituents thereof. In some embodiments, the composition can include at least one cell type and/or at least one growth factor. In some embodiments, the composition can include a biologic encapsulated, suspended, disposed within or loaded into a biodegradable carrier. In some embodiments, the composition(s) of the present invention can be delivered by a dual lumen injection device to a treatment area in situ, in vivo, as well as ex vivo applications.

8 Claims, 6 Drawing Sheets