WOUND AND CUTANEOUS INJURY HEALING WITH A NUCLEIC ACID ENCODING A PROTEOGLYCAN POLYPEPTIDE

ABSTRACT

The present disclosure provides nucleic acid constructs encoding one or more polypeptides containing at least one glycosaminoglycan chain, such as, but not limited to, a proteoglycan polypeptide, and methods for delivering to the site of a wound or cutaneous injury at least one nucleic acid construct encoding one or more such polypeptides, such that the expressed polypeptide is glycated by glycosaminoglycan chains through the normal physiological processes of the subject at the site of administration to produce a functional proteoglycan polypeptide for the healing of the wound or other cutaneous injury. The delivered nucleic acid construct is transcribed, translated and post-translationally modified by the addition of glycosaminoglycan chains (referred herein as 'decoration' or 'glycation') to produce a decorated polypeptide. The decorated polypeptide is then secreted from the cell in which it was produced to provide treatment of wounds and/or cutaneous injury in the subject and/or prevention of cutaneous injury in a subject.

(Figure.5)