(dermoepidermal junction integrity). Mutations in the Col7a1 gene, and diminished levels of PLOD3 expression, impair the ability of Collagen alpha-1 (VII) chain protein to properly connect the epidermis to the dermis in dystrophic epidermolysis bullosa patients, leading to fragile skin.

[0007] Treatment options for epidermolysis bullosa patients are limited, and current care focuses on managing the symptoms of the disease, including providing medication to control pain and itching, administering oral antibiotics to stave off infections resulting from open wounds on the skin and mucosa, and surgical strategies to address scarring and deformities. Investigational methods for treating the underlying causes of epidermolysis bullosa include administering purified Collagen 7, fibroblasts containing Collagen 7, or viral vectors encoding Collagen 7, by intradermal injection. Because many DEB patients have multiple wounds spanning large areas of trauma-prone sites (such as the sacrum, hips, feet, lower back, and hands), any treatment involving intradermal injection would be extremely invasive, as these large wound areas would all need to be injected, likely repeatedly, although injection time intervals are unclear.

[0008] Thus there exists a clear need for less invasive/minimally invasive/non-invasive treatment options for epidermolysis bullosa patients that can address the deficiencies in the Collagen alpha-1 (VII) chain protein, as well as deficiencies in the Lysyl hydroxylase 3 protein, observed in this patient population.

[0009] All references cited herein, including patent applications, patent publications, non-patent literature, and UniProtKB/Swiss-Prot Accession numbers are herein incorporated by reference in their entirety, as if each individual reference were specifically and individually indicated to be incorporated by reference.

SUMMARY

[0009a] In a first aspect, the present invention provides a pharmaceutical composition comprising:

a) a herpes simplex virus (HSV) comprising a recombinant herpes simplex virus genome,

wherein the recombinant herpes simplex virus genome comprises one or more polynucleotides encoding a transgene; and

b) a pharmaceutically acceptable carrier;

wherein the recombinant genome comprises an inactivating mutation in the infected cell protein 22 (ICP22) herpes simplex virus gene and/or one or both copies of the infected cell protein 4 (ICP4) herpes simplex virus gene.

[0009b] In a second aspect, the present invention provides the pharmaceutical composition of the invention for use as a medicament.

[0009c] In a third aspect, the present invention provides the pharmaceutical composition of the invention for use as a medicament to deliver the one or more polynucleotides encoding the transgene to the skin of a subject.

[0009d] In a fourth aspect, the present invention provides the pharmaceutical composition of the invention for use in providing prophylactic, palliative, or therapeutic relief of a wound, disorder, or disease of the skin of a subject.

[0009e] In a fifth aspect, the present invention provides a use of the pharmaceutical composition of the invention in the manufacture of a medicament for providing prophylactic, palliative, or therapeutic relief of a wound, disorder, or disease of the skin of a subject.

[0010] In order to meet these needs, the present disclosure relates, in part, to pharmaceutical compositions and methods of use for providing prophylactic, palliative, or therapeutic relief of a wound, disorder, or disease of the skin in a subject, especially in a subject having, or at risk of developing, one or more symptoms of epidermolysis bullosa. In particular, the present disclosure relates, in part, to a method of treating an individual by administering (*e.g.*, topically or transdermally administering) a pharmaceutical composition