CLAIMS

1. 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.

2. The pharmaceutical composition of claim 1, wherein the pharmaceutically acceptable carrier is suitable for topical administration, transdermal administration, subcutaneous injection, intradermal injection, or any combinations thereof.

3. The pharmaceutical composition of claim 1 or claim 2, wherein the herpes simplex virus (HSV) is a herpes simplex type 1 virus (HSV-1) or a herpes simplex type 2 virus (HSV-2).

4. The pharmaceutical composition of any one of claims 1-3, wherein the HSV comprising the recombinant genome is replication-defective.

5. The pharmaceutical composition of any one of claims 1-4, wherein the recombinant genome further comprises an inactivating mutation in a herpes simplex virus gene selected from the group consisting of ICP0, ICP27, ICP47, thymidine kinase (tk), long unique region (UL) 41, and UL55.

6. The pharmaceutical composition of any one of claims 1-5, wherein the recombinant genome comprises the ICP22 herpes simplex virus gene.

7. The pharmaceutical composition of any one of claims 1-5, wherein the recombinant genome comprises the one or more transgenes in one or both copies of the ICP4 herpes simplex virus gene.

8. The pharmaceutical composition of any one of claims 1-7, wherein the HSV has reduced cytotoxicity as compared to a wild-type herpes simplex virus.

9. The pharmaceutical composition of any one of claims 1-8, wherein the HSV is an HSV-1 that has been engineered to reduce cytotoxicity in keratinocytes and/or fibroblasts as compared to a wild-type HSV-1.

10. The pharmaceutical composition of any one of claims 1-9, wherein the pharmaceutical composition comprises at least 1×10^8 plaque forming units (PFU) of the HSV.

11. The pharmaceutical composition of any one of claims 1-10, wherein the one or more transgenes encode a Collagen alpha-1 (VII) chain polypeptide, a Lysyl hydroxylase 3 polypeptide, and/or a Keratin type I cytoskeletal 17 polypeptide.

12. The pharmaceutical composition of any one of claims 1-11, wherein the HSV is suitable for delivering to and expressing the one or more polynucleotides encoding the transgene in one or more target cells of the epidermis and/or dermis of a subject.

13. The pharmaceutical composition of any one of claims 1-12, which comprises an ointment, paste, cream, emulsion, fatty ointment, gel, powder, lotion, patch, or microneedle array.

14. The pharmaceutical composition of any one of claims 1-13 for use as a medicament.

15. The pharmaceutical composition of any one of claims 1-13 for use as a medicament to deliver the one or more polynucleotides encoding the transgene to the skin of a subject.

16. The pharmaceutical composition of any one of claims 1-13 for use in providing prophylactic, palliative, or therapeutic relief of a wound, disorder, or disease of the skin of a subject.

17. Use of the pharmaceutical composition of any one of claims 1-13 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.

18. The pharmaceutical composition for use of claim 16, or the use of claim 17, wherein the pharmaceutical composition is to be administered topically, transdermally, subcutaneously, or intradermally to the subject.

19. The pharmaceutical composition for use of claim 16, or the use of claim 17 or claim 18, wherein the subject suffers from epidermolysis bullosa.

20. The pharmaceutical composition for use of claim 15 or claim 16, or the use of any one of claims 17-19, wherein the subject is a human.