CLAIMS

1. A formulation comprising an active peptide having a molecular weight of about 1.0 kDa to about 10.0 kDa and a viscoelastic polymer, wherein the formulation is suitable for topical ocular delivery.

2. The formulation of claim 1, wherein the viscoelastic polymer is present in the formulation at a concentration of about 0.01% (w/w) to about 2.0% (w/w) or at a concentration of about 0.05% (w/w) to about 0.5% (w/w).

3. The formulation of claim 1 or 2, wherein the formulation further comprises sodium chloride (NaCl).

4. The formulation of any one of claims 1-3, wherein the active peptide is present in the composition at a concentration of about 0.05% (w/w) to about 0.1% (w/w).

5. The formulation of any one of claims 1-4, wherein the formulation has a viscosity of about 18 to about 28 mPaS.

6. The formulation of any one of claims 1-5, wherein the active peptide is an alpha connexin peptide.

7. The formulation of claim 6, wherein the alpha connexin peptide comprises the carboxy terminal-most 4 to 30 contiguous amino acids of an alpha connexin.

8. The formulation of claim 6 or 7, wherein the peptide comprises the amino acid sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, and SEQ ID NO: 5.

9. The formulation of any one of claims 1-8, wherein the peptide comprises a cellular internalization sequence.

10. The formulation of claim 9, wherein the cellular internalization sequence is Antennapedia, and wherein the sequence comprises the amino acid sequence of SEQ ID NO:7.

11. The formulation of claim 10, wherein the peptide comprises the amino acid sequence selected from the group consisting of SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, and SEQ ID NO:12.

12. The formulation of any one of claims 1-11, wherein the formulation is suitable for administration via eye drop.

13. The formulation of any one of claims 1-12, wherein the viscoelastic polymer is hydroxypropyl methylcellulose (HPMC).

14. Use of the formulation of any one of claims 6-13 in the preparation of a medicament for treating or preventing an ocular injury in a subject in need thereof.

15. The use of claim 14, wherein the ocular injury is a corneal injury, a corneal defect, a corneal disease, a retinal disease, a retinal injury or a chemical or thermal burn injury.

16. The use of claim 14, wherein the ocular injury is caused by a burn or explosion or by a chronic disease or is secondary to an ocular surgery.

17. The use of claim 16, wherein the chronic disease is diabetes or diabetic keratopathy.

18. The use of claim 14, wherein the subject suffers from a persistent or recurrent corneal epithelial defect.

19. Use of the formulation of any one of claims 6-13 in the preparation of a medicament for accelerating corneal re epithelialization following an ocular injury or a persistent or recurrent corneal epithelial defect in a subject.

20. The use of claim 19, wherein the ocular injury results from a surgery, a chemical injury, a thermal burn injury, a corneal injury, a retinal disease, a retinal injury, a corneal disease, a corneal defect or a chronic disease.