

CLAIMS

1. A recombinant C-X-C motif chemokine ligand 10 (CXCL10) peptide, ~~wherein the peptide is modified relative to a wild-type CXCL amino acid sequence to introduce~~ comprising a cleavage site for a protease, wherein the amino acid sequence of the peptide comprises or consists of SEQ ID NO: 2.

~~2. The recombinant CXCL peptide of claim 1, wherein the CXCL is a ligand for C-X-C chemokine receptor 3 (CXCR3).~~

~~3. The recombinant CXCL peptide of claim 1, wherein the CXCL is CXCL10, CXCL4, CXCL9 or CXCL11.~~

~~4. The recombinant CXCL peptide of claim 1, wherein the protease is a cathepsin, an elastase or a matrix metalloproteinase (MMP).~~

~~5. The recombinant CXCL peptide of claim 4, wherein the cathepsin is cathepsin G.~~

~~6. The recombinant CXCL peptide of claim 4, wherein the cathepsin is cathepsin K.~~

~~7. The recombinant CXCL peptide of claim 4, wherein the elastase is a neutrophil elastase.~~

~~8. The recombinant CXCL peptide of claim 4, wherein the MMP is MMP2.~~

~~92.~~ The recombinant CXCL10 peptide of claim 1, wherein the peptide is ~~about 1222~~ to ~~about 30~~ amino acids in length.

~~103.~~ The recombinant CXCL10 peptide of claim 1, wherein the peptide is ~~about 1822~~ to ~~about 25~~ amino acids in length.

~~114.~~ The recombinant CXCL10 peptide of claim 1, wherein the peptide is ~~21 or 22~~ amino acids in length.

~~12. The recombinant CXCL peptide of claim 1, wherein the amino acid sequence of the peptide is at least 90% identical to any one of SEQ ID NOs: 2-7, 17-23 and 27-34.~~

~~13. The recombinant CXCL peptide of claim 1, wherein the amino acid sequence of the peptide is at least 95% identical to any one of SEQ ID NOs: 2-7, 17-23 and 27-34.~~

~~14. The recombinant CXCL peptide of claim 1, wherein the amino acid sequence of the peptide comprises or consists of any one of SEQ ID NOs: 2-7, 17-23 and 27-34.~~

~~15. The recombinant CXCL peptide of claim 1, wherein the amino acid sequence of the peptide comprises or consists of SEQ ID NO: 2.~~

~~165.~~ The recombinant CXCL¹⁰ peptide of claim 1, wherein the peptide comprises at least one chemical modification.

^{176.} The recombinant CXCL¹⁰ peptide of claim ¹⁶⁵, wherein the at least one chemical modification comprises a modification at the N-terminus of the peptide, a modification at the C-terminus of the peptide, or both.

^{187.} The recombinant CXCL¹⁰ peptide of claim ¹⁷⁶, wherein the modification at the N-terminus comprises formylation, acetylation, propionylation, pyroglutamate formation, myristoylation, palmitoylation, S-palmitoylation, mono-methylation, di-methylation, tri-methylation, or any combination thereof.

^{198.} The recombinant CXCL¹⁰ peptide of claim ¹⁷⁶, wherein the modification at the C-terminus comprises methylation, alpha-amidation, or a combination thereof.

^{209.} The recombinant CXCL¹⁰ peptide of claim ¹⁶⁵, wherein the at least one chemical modification comprises a non-standard peptide linkage.

^{210.} The recombinant CXCL¹⁰ peptide of claim 1, comprising at least one D-amino acid.

~~22. The recombinant CXCL peptide of claim 1, comprising at least one non-canonical amino acid.~~

~~23. The recombinant CXCL peptide of claim 22, wherein the at least one non-canonical amino acid is a modified non-canonical amino acid.~~

~~24. The recombinant CXCL peptide of claim 23, wherein the peptide comprises a modified non-canonical amino acid at the N-terminus of the peptide, at the C-terminus of the peptide, or both.~~

~~25. The recombinant CXCL peptide of claim 24, wherein the peptide comprises a modified non-canonical amino acid at the N-terminus and the modification comprises formylation, acetylation, propionylation, pyroglutamate formation, myristoylation, palmitylation, S-palmitoylation, mono-methylation, di-methylation, tri-methylation, or any combination thereof.~~

~~26. The recombinant CXCL peptide of claim 24, wherein the peptide comprises a modified non-canonical amino acid at the C-terminus and the modification comprises methylation, alpha-amidation, or a combination thereof.~~

~~27. The recombinant CXCL peptide of claim 22, wherein the at least one non-canonical amino acid is a methylated amino acid, an amino acid conjugated to a polyethylene glycol polymer, an amino acid conjugated to biotin, an amino acid conjugated to fluorescein isothiocyanate (FITC), an amino acid conjugated to a carrier protein, an amino acid labelled with a radioactive isotope, or any combination thereof.~~

~~28~~11. The recombinant CXCL10 peptide of claim 1 in a slow release formulation.

~~29~~12. The recombinant CXCL10 peptide of claim ~~28~~11, wherein the slow release formulation comprises poly(lactic-co-glycolic acid) (PLGA), a hydrogel or coacervate.

~~30~~13. A composition comprising the recombinant CXCL10 peptide of claim 1 and a pharmaceutically acceptable carrier.

~~31~~14. The composition of claim ~~30~~13, formulated for topical, intranasal, inhalation, intravenous, intravitreal, intramuscular, intradermal, or subcutaneous administration.

3215. The composition of claim 3013, formulated for delivery to the lungs by aerosolization or nebulizer.

3316. The composition of claim 3013, formulated for delivery to the bladder by catheter and instillation.

3417. The composition of claim 3013 in unit-dose form.

3518. The CXCL10 peptide of claim 1 for use in therapy.

3619. Use of the recombinant CXCL10 peptide of any one of claims 1 to 2912, or the use of the composition of any one of claims 3013 to 3417 in the preparation of a medicament for inhibiting fibrosis in a subject, wherein the medicament is to be administered to the subject.

3720. The use of claim 3619, wherein the subject has a wound, an autoimmune disease, an inflammatory disease or disorder, or an iatrogenic disease or disorder.

3821. The use of claim 3720, wherein the autoimmune disease is diabetes, scleroderma or autoimmune fibrosis.

3922. The use of claim 3720, wherein the inflammatory disease or disorder is idiopathic pulmonary fibrosis (IPF).

4023. The use of claim 3720, wherein the iatrogenic disease or disorder is drug-induced pulmonary fibrosis, Bacillus Calmette-Guerin (BCG) treatment-induced bladder fibrosis, or chemotherapy-induced bladder fibrosis.

4124. Use of the recombinant CXCL10 peptide of claim 1 in the preparation of a medicament for inhibiting angiogenesis in a subject, wherein the medicament is to be administered to the subject.

4225. The use of claim 4124, wherein the subject has an angiogenic disorder of the eye.

4326. The use of claim 4225, wherein the angiogenic disorder of the eye is wet macular degeneration, diabetic retinopathy, retinopathy of prematurity, restenosis following glaucoma treatment, neovascular glaucoma or corneal neovascularization.