

WHAT IS CLAIMED IS:

1. A fusion protein comprising:

a disintegrin binding to integrins $\alpha v\beta 3$ and $\alpha 5\beta 1$ or its integrin binding fragments, wherein the amino acid sequence of the disintegrin comprising an amino acid sequence of SEQ ID NO: 2, wherein Xaa is S, K, A, I, L or M at location 39; R, K, A, E, or G at location 40; A, K or E at location 41; G, R or A at location 42; K, T or A at location 43; R or A at location 46; I or R at location 47; P, G or A at location 48; G at location 50; M, D or N at location 52; P or L at location 53; P at location 65; R, G, P, Y, E or D at location 66; Y, N, W or L at location 67 and H, G, N or Y at location 68,

other protein binding peptide targeting an angiogenic factor,

the angiogenic factor comprising Angiopoietin (ANG), Ephrin (Eph), Fibroblast Growth Factor (FGF), Neuropilin (NRP), Plasminogen Activators, urokinase-type plasminogen activator receptor (uPAR), Platelet-Derived Growth Factor (PDGF), Placental growth factor (PIGF), Tumor Growth Factor beta (TGF- β), Vascular Endothelial Growth Factor (VEGF), Vascular Endothelial cadherin (VE-cadherin), Insulin-like Growth Factor (IGF), Connective-Tissue Growth Factor (CTGF), Tumor Necrosis Factor alpha (TNF- α), Interleukin 1 (IL-1), Interleukin 6 (IL-6), Granulocyte Macrophage Colony-Stimulating Factor (GM-CSF), and receptors thereof; and

a Fc domain.

2. The fusion protein of claim 1, wherein the other protein binding peptide comprises extracellular domains of VEGF receptors.

3. The fusion protein of claim 1, wherein

the Fc domain is a human or humanized constant sub-region comprising an immunoglobulin CH2 domain and a CH3 domain; and

the other protein binding peptide having an Ig-like domain D2 of a VEGFR1 and an Ig-like domain D3 of a VEGFR2.

4. The fusion protein according to claim 1 or 2 comprising the disintegrin, the Fc domain and the other protein binding peptide from C-terminus to N-terminus.

5. The fusion protein according to claim 1 or 2 comprising the disintegrin, the Fc domain and the other protein binding peptide from N-terminus to C-terminus.
6. The fusion protein of any of claims 1-3 further comprising a linker sequence
5 between the disintegrin and the other protein binding peptide.
7. The fusion protein of any of claims 1-3 further comprising a signal peptide sequence upstream of the other protein binding peptide.
- 10 8. The fusion protein according to claim 2, wherein the extracellular domains of VEGF receptors comprise an Ig-like domains D1-D7 of the VEGF receptors.
9. The fusion protein according to claim 2, wherein extracellular domains of VEGF receptors comprising i) an Ig-like domain D2 of a VEGFR1 and an Ig-like domain D3
15 of a VEGFR2; or ii) the amino acid sequence of SED ID NO: 10.
10. The fusion protein of claim 1 or 2 further comprising a GS or G₉ linker between the Fc domain and the disintegrin or the other protein binding peptide.
- 20 11. A nucleic acid encoding the fusion protein of any of claims 1-3.
12. A dimer of the fusion protein of any of claims 1-3.
13. A vector comprising a nucleotide sequence encoding the fusion protein of any of
25 claims 1-3.
14. A method of producing a fusion protein, comprising culturing a host cell comprising a nucleic acid encoding the fusion protein of any of claims 1-3 under a condition that produces the fusion protein, and recovering the fusion protein produced
30 by the host cell.
15. A composition comprising the fusion protein according to any of claims 1-3 and a pharmaceutically acceptable adjuvant, carrier or excipient.
- 35 16. Use of the fusion protein of any one of claims 1-3 in the manufacture of a medicament for treating/preventing an angiogenic disease.

17. The use of claim 16, wherein the angiogenic disease comprises rheumatoid arthritis, inflammatory arthritis, osteoarthritis, ocular and systemic cancer, tumor related metastasis and invasion, ocular disease characterized by neovascularization or ischemia, 5 uveitis, retinitis pigmentosa, age-related macular degeneration (AMD), diabetic retinopathy and diabetic macular edema (DME).

18. The use of claim 17, wherein the ocular disease characterized by neovascularization or ischemia is choroidal neovascularization.

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19. Use of the fusion protein of any one of claims 1-3 in the manufacture of a medicament for treating/preventing systemic fibrosis diseases.

20. The use of claim 19, wherein the systemic fibrosis diseases include idiopathic 15 lung fibrosis (IPF), nonalcoholic steatohepatitis (NASH) or liver fibrosis, diabetic nephropathy and/or kidney fibrosis, dermal fibrosis or keloid, cardio-fibrosis, and ischemia induced stroke.

21. Use of the fusion protein of any one of claims 1-3 in the manufacture of a 20 medicament for wound healing.