WHAT IS CLAIMED IS:

1. ~~A method of decreasing blood brain barrier permeability in a subject having a neuroinflammatory disorder, comprising administering to the subject~~ Use of an effective amount of an isolated binding molecule which specifically binds to semaphorin-4D (SEMA4D) in the manufacture of a medicament for decreasing blood brain barrier permeability in a subject having a neuroinflammatory disorder~~, thereby decreasing blood brain barrier permeability in the subject~~.

2. ~~A method of maintaining or increasing Claudin-5 expression in a subject having a neuroinflammatory disorder comprising administering to the subject~~Use of an effective amount of an isolated binding molecule which specifically binds to semaphorin-4D (SEMA4D) in the manufacture of a medicament for maintaining or increasing Claudin-5 expression in a subject having a neuroinflammatory disorder~~, wherein the binding molecule maintains or increases Claudin-5 expression in the subject~~.

3. The ~~method~~use of claim 1 or 2, wherein the binding molecule inhibits SEMA4D interaction with Plexin-B1.

4. ~~A method of decreasing blood brain barrier permeability in a subject having a neuroinflammatory disorder, comprising administering to the subject~~Use of an effective amount of an isolated binding molecule which specifically inhibits semaphorin 4D (SEMA4D) interaction with a SEMA4D receptor in the manufacture of a medicament for decreasing blood brain barrier permeability in a subject having a neuroinflammatory disorder~~, thereby decreasing blood brain barrier permeability in the subject~~.

5. ~~A method of treating a subject having a neuroinflammatory disorder, comprising administering to the subject~~Use of an effective amount of an isolated binding molecule which specifically inhibits semaphorin 4D (SEMA4D) interaction with a SEMA4D receptor in the manufacture of a medicament for treating a subject having a neuroinflammatory disorder, wherein the binding molecule decreases permeability of the blood-brain barrier, thereby treating the subject.

6. The ~~method~~use of claim 4 or 5, wherein the SEMA4D receptor is Plexin-B1.

7. The ~~method~~use of any one of claims 4-6, wherein the binding molecule specifically binds to SEMA4D or Plexin-B1.

8. The ~~method~~use of any one of claims 1-7, wherein the binding molecule competitively inhibits a reference monoclonal antibody selected from the group consisting of VX15/2503 or 67 from specifically binding to SEMA4D.

9. ~~A method of decreasing blood-brain barrier permeability in a subject having a neuroinflammatory disorder, comprising administering to the subject~~Use of an effective amount of an isolated binding molecule which specifically binds to SEMA4D in the manufacture of a medicament for decreasing blood-brain barrier permeability in a subject having a neuroinflammatory disorder, wherein the binding molecule competitively inhibits a reference monoclonal antibody selected from the group consisting of VX15/2503 or 67 from specifically binding to SEMA4D, thereby decreasing blood brain barrier permeability in the subject.

10. The ~~method~~use of any one of claims 1-9, wherein the binding molecule specifically binds to the same SEMA4D epitope as a reference monoclonal antibody selected from the group consisting of VX15/2503 or 67.

11. The ~~method~~use of any one of claims 1-10, wherein the binding molecule comprises an antibody or antigen-binding fragment thereof.

12. The ~~method~~use of claim 11, wherein the antibody or antigen-binding fragment thereof comprises a variable heavy chain (VH) comprising VHCDRs 1-3 comprising SEQ ID NOs 6, 7, and 8, respectively, and a variable light chain (VL) comprising VLCDRs 1-3 comprising SEQ ID NOs 14, 15, and 16, respectively.

13. The ~~method~~use of claim 12, wherein the antibody or antigen-binding fragment thereof is monoclonal antibody VX15/2503 or 67.

14. The ~~method~~use of claim 7, wherein the binding molecule specifically binds to Plexin-B1.

15. The ~~method~~use of claim 14, wherein the binding molecule competitively inhibits SEMA4D from binding to Plexin-B1.

16. The ~~method~~use of claims 14 or 15, wherein the binding molecule is an anti-Plexin-B1 antibody or antigen binding fragment thereof.

17. ~~A method of treating a subject having a neuroinflammatory disorder, comprising administering to the subject~~Use of an effective amount of an isolated binding molecule which specifically binds to semaphorin-4D (SEMA4D) and an isolated binding molecule which specifically binds to Plexin-B1 in the manufacture of a medicament for treating a subject having a neuroinflammatory disorder, wherein the SEMA4D and Plexin-B1 binding molecules decrease permeability of the blood-brain barrier, thereby treating the subject.

18. ~~A method of treating a subject having a neuroinflammatory disorder, comprising administering to the subject~~Use of an effective amount of an inhibitor of semaphorin 4D (SEMA4D) interaction with a SEMA4D receptor in the manufacture of a medicament for treating a subject having a neuroinflammatory disorder, wherein the inhibitor decreases permeability of the blood-brain barrier, thereby treating the subject.

19. The ~~method~~use of claim 18, wherein the inhibitor is selected from the group consisting of an anti-SEMA4D binding molecule, an anti-PlexinB1 binding molecule, a small molecule inhibitor of SEMA4D, or a small molecule inhibitor of a SEMA4D receptor.

20. The ~~method~~use of any one of claims 1-19, wherein the neuroinflammatory disorder is selected from the group consisting of Multiple Sclerosis, Amyotrophic Lateral Sclerosis, epilepsy, Alzheimer's Disease, Parkinson's Disease, meningitis, brain edema, and brain trauma.