WHAT IS CLAIMED IS:

1. Use of a therapeutically effective amount of one or more antibodies or antigen binding fragments thereof that bind to and block soluble ephrin-B2 ectodomain in the preparation of a medicament for the treatment of organ fibrosis in a subject, wherein the subject has been identified as having organ fibrosis.

2. The use of claim 1, wherein the organ fibrosis is pulmonary (e.g., idiopathic pulmonary fibrosis), skin, kidney fibrosis, liver fibrosis or cirrhosis, systemic sclerosis, or desmoplastic tumors.

3. The use of claim 1, wherein the treatment results in a reduction in fibrosis and / or a return or approach to normal function of the organ.

4. The use of claim 1, wherein the subject has pulmonary fibrosis, and the therapeutically effective amount results in decreased lung fibrosis and improved lung function, e.g., improved oxygenation.

5. The use of claim 1, wherein the subject has pulmonary fibrosis.

6. The use of claim 5, wherein the subject has patterns of fibrosis on a chest radiograph or chest computed tomography (CT) or high-resolution CT (HRCT) scan, and bibasilar inspiratory crackles.

7. The use of claim 1, wherein the subject has systemic sclerosis.

8. The use of claim 7, wherein the subject has skin thickening of the fingers, finger tip lesions, telangiectasia, abnormal nailfold capillaries, interstitial lung disease or pulmonary arterial hypertension, Raynaud's phenomenon, and SSc-related autoantibodies.

9. The use of claim 1, wherein the subject has liver fibrosis or cirrhosis.

10. The use of claim 9, wherein the subject has fibrosis detected on biopsy or imaging, e.g., on ultrasound (US), computed tomography (CT), FibroScanning or MR imaging (MRI).

11. The use of any of the preceding claims, wherein the antibody is a clone B11 antibody.

12. The use of any of claims 1-10, wherein the antibody is a clone 2B1 antibody.

13. The use of any of the preceding claims, wherein the antibody is a monoclonal chimeric, de-immunized or humanized antibody.