

UC and CD (JAK inhibitors in UC only). However, none of these subsequently approved therapies have demonstrated significant improvement in effect size relative to anti-TNF. Moreover, among those patients who do respond, up to 45% will lose response over time. Current therapies used in the treatment of UC and CD apply a one-size-fits-all approach without regard to genetic or biologic variations in the patient. Existing approaches continue to leave unmet patient need.

[0005] The heterogeneity of disease pathogenesis and clinical course, combined with the variable response to treatment and its associated side effects, suggests a targeted therapeutic approach to treating these diseases is a desirable treatment strategy. Yet there are very few targeted therapies available to IBD patients, especially those patients who may be non-responsive to existing IBD therapies. Accordingly, there is a need for therapeutics to treat IBD that specifically target IBD pathogenesis.

2. SUMMARY

[0006] The present disclosure provides tumor necrosis factor ligand 1A (TL1A) binding antibodies and compositions thereof for the treatment of IBD, including severe forms of IBD characterized by intestinal fibrosis. In various aspects, antibodies described herein possess features useful for therapeutic application such as low immunogenicity, and/or features that facilitate antibody manufacture, such as high percentage of monomeric fraction as measured by size-exclusion chromatography, and/or high expression. In further aspects, antibodies described herein possess features useful for subcutaneous administration, such as low viscosity at high antibody concentration. Further aspects of the antibodies and antibody formulations may include high solubility, low subvisible particles, low opalescence, no visible particulates, and any combination thereof.

[0006a] In one aspect, provided herein is pharmaceutical composition comprising an antibody or antigen binding fragment that binds to tumor necrosis factor-like protein 1A (anti-TL1A antibody or antigen binding fragment) at a concentration of (i) about 150 mg/mL to about 250 mg/mL; (ii) about 175 mg/mL to about 225 mg/mL; (iii) greater than about 150, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, or 225 mg/mL; or (iv) about 150, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, or 225 mg/mL.

[0006b] In one aspect, provided herein is a use of an antibody or antigen binding fragment that binds to tumor necrosis factor-like protein 1A (anti-TL1A antibody or antigen binding fragment) in the manufacture of a medicament for the treatment of an inflammatory disease in a subject, wherein (i) the anti-TL1A antibody or antigen binding fragment is to be

administered to the subject at a first dose up to about 1000 mg; (ii) the first dose is to be administered to the subject at a first time point, and a second dose is to be administered to the subject at a second time point and; and (iii) the second time point is about 1, 2, 3, or 4 weeks after the first time point, wherein the second dose comprises about 150 mg to about 600 mg.

[0006c] In one aspect, provided herein is a use of an anti-TL1A antibody or antigen binding fragment in the manufacture of a medicament for treating IBD in a subject in need thereof, wherein the anti-TL1A antibody or antigen binding fragment is to be used at an effective dose such that the concentration of TL1A in a diseased tissue in the subject after the use is below the concentration of TL1A in a corresponding tissue in a control subject without IBD, wherein optionally the diseased tissue in the subject produces up to 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, or more fold of TL1A compared to the corresponding tissue in the control subject during the induction regimen.

[0006d] In one aspect, provided herein is an antibody or antigen binding fragment that binds to tumor necrosis factor-like protein 1A (anti-TL1A antibody or antigen binding fragment) for use in therapy.

[0007] In one aspect, provided herein is a pharmaceutical composition comprising an antibody that binds to tumor necrosis factor-like protein 1A (anti-TL1A antibody) at a concentration greater than about 150 mg/mL. In some embodiments, the concentration is greater than about 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, or 225 mg/mL. In some embodiments, the concentration is about 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, or 225 mg/mL. In some embodiments, the concentration is about 150 mg/mL to about 250 mg/mL. In some embodiments, the concentration is about 175 mg/mL to about 225 mg/mL. In one aspect, provided herein is a pharmaceutical composition comprising an antibody that binds to tumor necrosis factor-like protein 1A (anti-TL1A antibody) at a concentration greater than about 50 mg/mL. In some embodiments, the