

CLAIMS:

1. An isolated antibody or antigen binding fragment thereof, that binds to human TL1A (TNF-like ligand 1A) and comprises:
 - a) a heavy chain variable domain comprising:
CDRH1 comprising the sequence of SEQ ID NO:7;
CDRH2 comprising the sequence of SEQ ID NO:8; and
CDRH3 comprising the sequence of SEQ ID NO:9;
and
 - b) a light chain variable domain comprising:
CDRL1 comprising the sequence of SEQ ID NO:12;
CDRL2 comprising the sequence of SEQ ID NO:13; and
CDRL3 comprising the sequence of SEQ ID NO:14.
2. The isolated antibody or antigen binding fragment of Claim 1 that binds to TL1A at an epitope comprising one or more of residues ¹⁰²TVVRQTPTQHFKNQF¹¹⁶ (SEQ ID NO:16) or ¹⁶⁶EIRQAGRPNKPDSIT¹⁸⁰ (SEQ ID NO: 17).
3. The isolated antibody or antigen binding fragment of Claim 2 that binds to TL1A at an epitope comprising one or more of residues ¹⁶⁹QAGR¹⁷² and one or more of residues ¹¹³KNQF¹¹⁶.
4. The isolated antibody or antigen binding fragment of Claim 2 that binds to TL1A at an epitope comprising the sequence ¹⁶⁹QAGR¹⁷² and/or ¹¹³KNQF¹¹⁶.
5. The isolated antibody or antigen binding fragment of any one of the preceding Claims wherein the antibody or fragment inhibits the binding of human TL1A to DR3.
6. The isolated antibody or antigen binding fragment of any one of Claims 1 – 4 wherein the antibody or antigen binding fragment binds to both human and cynomolgus TL1A.
7. The isolated antibody or antigen binding fragment of any one of Claims 1 – 6 comprising one or more heavy chains and one or more light chains, wherein:

- a) the heavy chain comprises a heavy chain variable region having at least 80% sequence identity with the sequence of SEQ ID NO: 6; and
 - a) the light chain comprises a light chain variable region having at least 80% sequence identity with the sequence of SEQ ID NO: 11.
8. The isolated antibody of any one of the preceding claims wherein the antibody is:
- (a) a human IgG4 Fc variant;
 - (b) a human IgG1 or IgG3 Fc variant; or
 - (c) a human IgG1 or IgG3 Fc variant with reduced or eliminated effector function.
9. A nucleic acid encoding the heavy and/or light chain variable region of the antibody or antigen binding fragment of any of the Claims 1 – 8.
10. An expression vector comprising the nucleic acid molecule of Claim 9.
11. A host cell transformed with an expression vector of Claim 10.
12. A method of producing an anti-TL1A antibody or antigen binding fragment thereof comprising culturing the host cell of Claim 11 under conditions that allows production of the antibody or fragment, and purifying the antibody from the cell.
13. A pharmaceutical composition comprising the isolated antibody or antigen binding fragment of any one of Claims 1 – 8 and a pharmaceutically acceptable carrier.
14. The isolated antibody or antigen binding fragment of any one of Claims 1 – 8 for use in the treatment of inflammatory or immune diseases.
15. The isolated antibody or antigen binding fragment for the use of Claim 13, wherein the inflammatory or immune disease is selected from the group consisting of allergy/asthma, rheumatoid arthritis, multiple sclerosis, Crohn's disease, inflammatory bowel disease, systemic lupus erythematosus (SLE), psoriasis, type 1 diabetes and transplant rejection.