CLAIMS

What is claimed:

1. An anti-human TREM2(hTREM2) antibody, comprising a light chain variable region having complementarity determining regions CDRL1, CDRL2, and CDRL3 and a heavy chain variable region having complementarity determining regions CDRH1, CDRH2, and CDRH3, wherein

CDRL1 comprises the amino acid sequence of: RASQSVSSNLA (SEQ ID NO: 10);
CDRL2 comprises the amino acid sequence of: GASTRAT (SEQ ID NO: 23);
CDRL3 comprises the amino acid sequence of: LQDNNFPPT;
CDRH1 comprises the amino acid sequence of: SYWIG (SEQ ID NO: 81);
CDRH2 comprises the amino acid sequence of: IIYPGDADARYSPSFQG; and
CDRH3 comprises the amino acid sequence of: RRQGIFGDALDF.

2. The anti-hTREM2 antibody of claim 1, wherein the antibody is a chimeric antibody, a humanized antibody, or a fully human antibody.

3. The anti-hTREM2 antibody of claim 1, wherein the antibody is an IgG1, IgG2, IgG3, or IgG4 antibody.

4. The anti-hTREM2 antibody of claim 3, wherein the antibody is a human IgG1 antibody.

5. The anti-hTREM2 antibody of claim 4, wherein the antibody comprises a mutation at amino acid position N297 according to EU numbering in its heavy chain.

6. The anti-hTREM2 antibody of claim 5, wherein the mutation is N297G.

7. The anti-hTREM2 antibody of claim 4, wherein the antibody comprises R292C and V302C mutations according to EU numbering in its heavy chain.

8. An anti-human TREM2 (hTREM2) antibody, comprising a light chain variable region having the amino acid sequence of SEQ ID NO:330, and a heavy chain variable region having the amino acid sequence of SEQ ID NO:331.

9. The anti-hTREM2 antibody of claim 8, wherein the antibody is a human IgG1 antibody comprising a kappa light chain constant region.

10. The anti-hTREM2 antibody of claim 9, wherein the antibody comprises a mutation at amino acid position N297 according to EU numbering in its heavy chain.

11. The anti-hTREM2 antibody of claim 9, wherein the antibody comprises mutations R292C, N297G, and V302C according to EU numbering in its heavy chain.

12. An anti-human TREM2 (hTREM2) antibody, comprising a light chain having the amino acid sequence of:
EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWFQQKPGQAPRLLIYGASTRATGIPARFSGSG
SGTEFTLTISSLQPEDFAVYYCLQDNNFPPTFGQGTKVDIKRTVAAPSVFIFPPSDEQLKSGTASVV
CLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEV
THQGLSSPVTKSFNRGEC; and

a heavy chain having the amino acid sequence of:
EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPGDADARYSPSF
QGQVTISADKSISTAYLQWSSLKASDTAMYFCARRRQGIFGDALDFWGQGTLVTVSSASTKGPS
VFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPCEEQYGSTYRCVSVLTVLHQDWLNGK
EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG
K.

13. A pharmaceutical composition comprising the anti-hTREM2 antibody of claim 1 and a pharmaceutically acceptable excipient.

14. A polynucleotide that encodes the anti-hTREM2 antibody of claim 1.

15. An expression vector comprising the polynucleotide of claim 14.

16. A host cell comprising the expression vector of claim 15.

17. A method of producing an anti-hTREM2 antibody that specifically binds to human TREM2 comprising culturing the host cell of claim 16 in a culture medium under conditions that allow expression of the anti-hTREM2 antibody; and recovering the anti-hTREM2 antibody from the culture medium or host cell.