What is claimed is:

1. A humanized anti-adipocyte protein 2 (aP2) monoclonal antibody, or antigen binding agent, comprising:

(a) a light chain variable region comprising:

(i) a CDR-L1 complementarity determining region (CDR) comprising the amino acid sequence of Seq. ID No. 7;

(ii) a CDR-L2 CDR comprising the amino acid sequence of Seq. ID No. 8; and,

(iii) a CDR-L3 CDR comprising an amino acid sequence selected from the group consisting of Seq. ID No. 9, Seq. ID No. 10, Seq. ID No. 11, and Seq. ID No. 12; and

(b) a heavy chain variable region comprising:

(i) a CDR-H1 CDR comprising the amino acid sequence of Seq. ID No.14;

(ii) a CDR-H2 CDR comprising an amino acid sequence selected from the group consisting of Seq. ID No. 16 and Seq. ID No. 17; and,

(iii) a CDR-H3 CDR comprising an amino acid sequence selected from the group consisting of Seq. ID No. 19 and Seq. ID No. 20.

2. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-L3 CDR comprises the amino acid sequence of Seq. ID No. 9.

3. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-L3 CDR comprises the amino acid sequence of Seq. ID No. 10.

4. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-L3 CDR comprises the amino acid sequence of Seq. ID No. 11.

5. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-L3 CDR comprises the amino acid sequence of Seq. ID No. 12.

6. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 16.

7. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 17.

8. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 19.

9. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 20.

10. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H1 CDR comprises the amino acid sequence of Seq. ID No. 14, the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 16, and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 19.

11. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H1 CDR comprises the amino acid sequence of Seq. ID No. 14, the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 17, and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 19.

12. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H1 CDR comprises the amino acid sequence of Seq. ID No. 14, the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 16, and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 20.

13. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H1 CDR comprises the amino acid sequence of Seq. ID No. 14, the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 17, and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 20.

14. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the light chain variable region comprises an amino acid sequence selected from the group consisting of Seq. ID No. 446, Seq. ID No. 448, Seq. ID No. 487, Seq. ID No. 488, Seq. ID No. 450, and Seq. ID No. 452.

15. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the heavy chain variable region comprises the amino acid sequence of Seq. ID No. 455.

16. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the light chain variable region comprises the amino acid sequence of Seq. ID No. 446 and the heavy chain variable region comprises the amino acid sequence of Seq. ID No. 459.

17. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 2, wherein the heavy chain variable region comprises the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 16 and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 19.

18. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 2, wherein the heavy chain variable region comprises the CDR-H2 CDR comprises the amino acid

sequence of Seq. ID No. 17 and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 20.

19. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 3, wherein the heavy chain variable region comprises the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 16 and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 19.

20. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 3, wherein the heavy chain variable region comprises the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 17 and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 20.

21. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 4, wherein the heavy chain variable region comprises the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 16 and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 19.

22. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 4, wherein the heavy chain variable region comprises the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 17 and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 20.

23. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 5, wherein the heavy chain variable region comprises the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 16 and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 19.

24. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 5, wherein the heavy chain variable region comprises the CDR-H2 CDR comprises the amino acid sequence of Seq. ID No. 17 and the CDR-H3 CDR comprises the amino acid sequence of Seq. ID No. 20.

25. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the heavy chain variable region comprises the amino acid sequence of Seq. ID No. 459.

26. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the heavy chain variable region comprises the amino acid sequence of Seq. ID No. 457.

27. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the heavy chain variable region comprises the amino acid sequence of Seq. ID No. 461.

28. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the heavy chain variable region comprises the amino acid sequence of Seq. ID No. 463.

29. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 15, wherein the light chain variable region comprises the amino acid sequence of Seq. ID No. 446.

30. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 25, wherein the light chain variable region comprises the amino acid sequence of Seq. ID No. 446.

31. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 26, wherein the light chain variable region comprises the amino acid sequence of Seq. ID No. 446.

32. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 27, wherein the light chain variable region comprises the amino acid sequence of Seq. ID No. 446.

33. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 28, wherein the light chain variable region comprises the amino acid sequence of Seq. ID No. 446.

34. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, further comprising a human kappa light chain constant region.

35. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 34, wherein the light chain variable region and human kappa light chain constant region amino acid sequence is selected from the group consisting of Seq. ID No. 447, Seq. ID No. 449, Seq. ID No. 489, Seq. ID No. 490, Seq. ID No. 451, and Seq. ID No. 453.

36. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, further comprising a human IgG4 heavy chain constant region.

37. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 36, wherein in the IgG4 heavy chain constant region comprises a proline substitution at amino acid 241.

38. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 37, wherein the heavy chain variable region and human IgG4 heavy chain constant region amino acid sequence is selected from the group consisting of Seq. ID No. 456, Seq. ID No. 458, Seq. ID No. 460, Seq. ID No. 462, and Seq. ID No. 464.

39. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 15, wherein the light chain variable region comprises Seq. ID No. 446.

40. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 15, wherein the light chain variable region comprises Seq. ID No. 448.

41. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 15, wherein the light chain variable region comprises Seq. ID No. 450.

42. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 15, wherein the light chain variable region comprises Seq. ID No. 452.

43. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 15, wherein the light chain variable region comprises Seq. ID No. 487.

44. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 15, wherein the light chain variable region comprises Seq. ID No. 488.

45. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-L1 CDR, CDR-L2 CDR, and CDR-L3 CDR are grafted into a human IGKV1-17 acceptor sequence comprising the amino acid sequence of Seq. ID No. 506.

46. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 45, wherein the human IGKV1-17 acceptor sequence comprises one or more amino acid substitutions selected from the group consisting of valine at amino acid 2, valine at amino acid 3, lysine at amino acid 63, and aspartic acid at amino acid 70.

47. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 1, wherein the CDR-H1 CDR, CDR-H2 CDR, and CDR-H3 CDR are grafted into a human IGHV4-4 acceptor sequence comprising the amino acid sequence of Seq. ID No. 481.

48. The humanized anti-aP2 monoclonal antibody, or antigen binding agent, of claim 47, wherein the human IGHV4-4 acceptor sequence comprises one or more amino acid substitutions selected from the group consisting of threonine at amino acid 23, phenylalanine at amino acid 67, lysine at amino acid 71, alanine at amino acid 72, serine at amino acid 73, threonine at amino acid 74, threonine at amino acid 77, valine at amino acid 78, aspartic acid at amino acid 79, threonine at amino acid 89, and phenylalanine at amino acid 91.