CLAIMS

That which is claimed is:

1. A polypeptide comprising the amino acid sequence of the catalytic domain of human LOX (SEQ ID NO:1), wherein the polypeptide does not contain sequences from human LOX that lie outside its catalytic domain.

2. A polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 1.

3. The polynucleotide of claim 2 having a nucleotide sequence as set forth in SEQ ID NO:2.

4. A polypeptide comprising the amino acid sequence of the catalytic domain of human LOXL2 (SEQ ID NO:3), wherein the polypeptide does not contain sequences from human LOX2 that lie outside its catalytic domain.

5. A polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 4.

6. The polynucleotide of claim 5 having a nucleotide sequence as set forth in SEQ ID NO:4.

7. A polypeptide comprising the amino acid sequence of the catalytic domain of murine LOX (SEQ ID NO:5), wherein the polypeptide does not contain sequences from murine LOX that lie outside its catalytic domain.

8. A polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 7.

~~9. The polynucleotide of claim 8 having a nucleotide sequence as set forth in~~ SEQ ID NO:6.

10. A polypeptide comprising the amino acid sequence of the catalytic domain of murine LOXL2 (SEQ ID NO:7), wherein the polypeptide does not contain sequences from murine LOXL2 that lie outside its catalytic domain.

11. A polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 10.

12. The polynucleotide of claim 11 having a nucleotide sequence as set forth in SEQ ID NO:8.

13. A polypeptide comprising a signal sequence, the catalytic domain of human LOX, an epitope tag and a purification tag, wherein the polypeptide does not contain sequences from human LOX that lie outside its catalytic domain.

14. The polypeptide of claim 13, wherein the signal sequence is an immunoglobulin kappa signal sequence.

15. The polypeptide of claim 13, wherein the epitope tag is a *myc* tag.

16. The polypeptide of claim 13, wherein the purification tag is a His_6 tag.

17. The polypeptide of claim 13 having an amino acid sequence as set forth in SEQ ID NO:9.

18. A polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 13.

~~19. The polynucleotide of claim 18 having a nucleotide sequence as set forth~~ in SEQ ID NO:10.

20. An expression vector comprising the polynucleotide of claim 18.

21. An expression vector comprising the polynucleotide of claim 19.

22. A polypeptide comprising a signal sequence, the catalytic domain of human LOXL2, an epitope tag and a purification tag, wherein the polypeptide does not contain sequences from human LOXL2 that lie outside its catalytic domain.

23. The polypeptide of claim 22, wherein the signal sequence is an immunoglobulin kappa signal sequence.

24. The polypeptide of claim 22, wherein the epitope tag is a *myc* tag.

25. The polypeptide of claim 22, wherein the purification tag is a His_6 tag.

26. The polypeptide of claim 22 having an amino acid sequence as set forth in SEQ ID NO:11.

27. A polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 22.

28. The polynucleotide of claim 27 having a nucleotide sequence as set forth in SEQ ID NO:12.

29. An expression vector comprising the polynucleotide of claim 27.

30. An expression vector comprising the polynucleotide of claim 28.

31. A polypeptide comprising a signal sequence, the catalytic domain of murine LOX, an epitope tag and a purification tag, wherein the polypeptide does not contain sequences from murine LOX that lie outside its catalytic domain.

32. The polypeptide of claim 31, wherein the signal sequence is an immunoglobulin kappa signal sequence.

33. The polypeptide of claim 31, wherein the epitope tag is a *myc* tag.

34. The polypeptide of claim 31, wherein the purification tag is a His_6 tag.

35. The polypeptide of claim 31 having an amino acid sequence as set forth in SEQ ID NO:13.

36. A polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 31.

37. The polynucleotide of claim 36 having a nucleotide sequence as set forth in SEQ ID NO:14.

38. An expression vector comprising the polynucleotide of claim 36.

39. An expression vector comprising the polynucleotide of claim 37.

40. A polypeptide comprising a signal sequence, the catalytic domain of murine LOXL2, an epitope tag and a purification tag, wherein the polypeptide does not contain sequences from murine LOXL2 that lie outside its catalytic domain.

41. The polypeptide of claim 40, wherein the signal sequence is an immunoglobulin kappa signal sequence.

~~42. The polypeptide of claim 40, wherein the epitope tag is a *myc* tag.~~

43. The polypeptide of claim 40, wherein the purification tag is a His_6 tag.

44. The polypeptide of claim 40 having an amino acid sequence as set forth in SEQ ID NO:15.

45. A polynucleotide comprising a nucleotide sequence encoding the polypeptide of claim 40.

46. The polynucleotide of claim 45 having a nucleotide sequence as set forth in SEQ ID NO:16.

47. An expression vector comprising the polynucleotide of claim 45.

48. An expression vector comprising the polynucleotide of claim 46.

CLAIMS

THAT WHICH IS CLAIMED IS:

1. An isolated polypeptide, comprising:

a catalytic domain of a human LOXL2 protein, wherein:

the catalytic domain comprises an amino acid sequence selected from the group consisting of: SEQ ID NO: 3 without the initial TA residues; and

wherein the polypeptide does not contain sequences from the human LOXL2 protein outside of the catalytic domain.

2. The polypeptide of claim 1, further comprising a signal sequence, an epitope tag, and a purification tag.

3. The polypeptide of claim 2, wherein the signal sequence is an immunoglobulin kappa signal sequence.

4. The polypeptide of claim 2, wherein the epitope tag is a *myc* tag.

5. The polypeptide of claim 2, wherein the purification tag is a His_6 tag.

6. The polypeptide of claim 2, wherein the polypeptide consists of the catalytic domain, the signal sequence, the epitope tag, and the purification tag.

7. The polypeptide of claim 1, wherein the polypeptide consists of the catalytic domain.

8. An isolated polynucleotide, having a nucleotide sequence encoding the polypeptide of claim 1.

9. An expression vector comprising the polynucleotide of claim 8.