What is claimed is:

1. A rodent comprising at an endogenous rodent β2 microglobulin locus a nucleic acid sequence comprising exons 2, 3, and 4 of a human β2 microglobulin gene, wherein the nucleic acid sequence encodes a polypeptide comprising a human β2 microglobulin amino acid sequence,

wherein the rodent expresses the human or humanized β2 microglobulin polypeptide, and

wherein the rodent is a rat or a mouse.

2. The rodent of claim 1, wherein:

(i) the nucleic acid sequence comprises a genomic sequence of exon 2 to exon 4 of a human β2 microglobulin gene;

(ii) the nucleic acid sequence encodes a polypeptide comprising amino acids 23-119 of a human β2 microglobulin protein;

(iii) the nucleic acid sequence further comprises exon 1 of a rodent β2 microglobulin gene;

(iv) the nucleic acid sequence is operably linked to endogenous rodent β2 microglobulin regulatory elements; and/or

(v) the rodent does not express a functional endogenous rodent β2 microglobulin polypeptide from the endogenous rodent β2 microglobulin locus.

3. The rodent of claim 1 or 2, wherein the rodent is a mouse.

4. A mouse comprising at an endogenous mouse β2 microglobulin locus a nucleic acid sequence that (1) comprises exon 1 of a mouse β2 microglobulin gene and exons 2, 3, and 4 of a human β2 microglobulin gene, and (2) is operably linked to mouse β2 microglobulin regulatory elements,

wherein the nucleic acid sequence encodes a polypeptide comprising a human β2 microglobulin amino acid sequence, and

wherein the mouse expresses a human or humanized β2 microglobulin polypeptide.

5. The mouse of claim 4, wherein

(i) the nucleic acid sequence comprises a genomic sequence of exon 2 to exon 4 of a human β2 microglobulin gene;

(ii) the nucleic acid sequence encodes a polypeptide comprising amino acids 23-119 of a human β2 microglobulin protein; and

(iii) the mouse does not express a functional endogenous mouse β2 microglobulin polypeptide from the endogenous mouse β2 microglobulin locus.

6. A method of modifying an endogenous β2 microglobulin locus of a mouse to express a human or humanized β2 microglobulin polypeptide, wherein the method comprises replacing at the endogenous mouse β2 microglobulin locus a nucleic acid sequence comprising exons 2, 3, and 4 of a mouse β2 microglobulin gene with a nucleic acid sequence comprising exons 2, 3, and 4 of a human β2 microglobulin gene.

7. The method of claim 6, wherein:

(i) the method comprises replacing at the endogenous mouse β2 microglobulin locus a genomic sequence of exons 2 to 4 of a mouse β2 microglobulin gene with a nucleic acid sequence comprising a genomic sequence of exons 2 to 4 of a human β2 microglobulin gene;

(ii) wherein the modified endogenous mouse β2 microglobulin locus retains exon 1 of a mouse β2 microglobulin gene;

(iii) wherein the mouse does not express a functional mouse β2 microglobulin polypeptide from the modified endogenous mouse β2 microglobulin locus; and/or

(iv) wherein the replacement is made in a single ES cell, and the single ES cell is introduced into a mouse embryo to make a mouse.

8. A nucleic acid sequence comprising exon 1 of a rodent β2 microglobulin gene operably linked to exons 2, 3, and 4 of a human β2 microglobulin gene,

wherein the nucleic acid sequence encodes a polypeptide comprising a human β2 microglobulin amino acid sequence, and

wherein the rodent is a rat or a mouse.

9. The nucleic acid sequence of claim 8, wherein:

(i) the nucleic acid sequence comprises a genomic sequence of exon 2 to exon 4 of a human β2 microglobulin gene;

(ii) the nucleic acid sequence encodes a β2 microglobulin polypeptide that comprises amino acids 23-119 of a human β2 microglobulin protein; and/or

(iii) the nucleic acid sequence is operably linked to a rat or a mouse β2 microglobulin regulatory element.

10. A chimeric human/rodent β2 microglobulin polypeptide encoded by the nucleic acid of claim 8 or claim 9.

11. An isolated cell comprising the nucleic acid sequence of claim 8 or 9, wherein the cell optionally expresses the polypeptide comprising a human β2 microglobulin amino acid sequence on its surface.

12. An *in vitro* composition comprising the isolated cell of claim 11, wherein the isolated cell optionally expresses the polypeptide comprising a human β2 microglobulin amino acid sequence non-covalently bound to an MHC I protein, and wherein the cell is optionally complexed with a human or non-human T cell.

13. A method for determining whether a putative antigen contains an epitope that will generate an HLA class I restricted immune response comprising

exposing a genetically modified rodent to the antigen or a portion thereof,

allowing the rodent to mount an immune response, and

detecting in the rodent a cell that specifically binds an antigen presenting cell that expresses a humanized MHC I complex presenting a peptide sequence of the antigen or the portion thereof;

wherein the rodent expresses

(i) a chimeric human/rodent MHC I polypeptide from an endogenous Major Histocompatibility Complex I (MHC I) locus that comprises a nucleotide sequence encoding α1, α2, and α3 domains of a human MHC I polypeptide operably linked to transmembrane and cytoplasmic domains of a rodent MHC I polypeptide, and

(ii) a human or humanized β2 microglobulin polypeptide from an endogenous β2 microglobulin locus that comprises a nucleic acid sequence comprising exons 2, 3, and 4 of a human β2 microglobulin gene;

wherein the humanized MHC I complex comprises the chimeric human/rodent MHC I polypeptide and the human or humanized β2 microglobulin polypeptide,

wherein the rodent is a rat or a mouse.

14. The method of claim 13, wherein the rodent is a mouse.