CLAIMS

1. A hypoimmunogenic cell line which does not express Class I epitopes or Class II epitopes and which overexpresses interleukin-10 (IL-10) factor or migration inhibitory factor (MIF) factor.

2. The hypoimmunogenic cell line of claim 1 which does not express Class I epitopes and does not express Class II epitopes.

3. The hypoimmunogenic cell line of claim 1 which overexpresses IL-10 factor and MIF factor.

4. The hypoimmunogenic cell line of claim 1 which is an iPSC or an immortalized cell line.

5. The hypoimmunogenic cell line of claim 1 wherein the cell is any proliferating cell which undergoes sufficient cell divisions to allow insertion and selection of cells which exhibit Class I or Class II epitope elimination and/or an increase in expression of IL-10 factor or MIF factor.

6. The hypoimmunogenic cell line of claim 1 wherein the cells are induced pluripotent stem cells, mesenchymal stem cells, neural stem cells or hematopoietic stem cells.

7. The hypoimmunogenic cell of any of claims 1 through 6 produced by knocked in safe harbor sites or transfection by transposon.

8. A hypoimmunogenic cell line in which expression of IL-10 factor or MIF factor or both is increased and an additional factor which mimics the loss of Class I and/or Class II activity is added.

9. The hypoimmunogenic cell of claim 8 wherein the additional factor is an antisense oligonucleotide or siRNA or modifications for translation that reduces expression of HLA antigens on a surface of the cell or a factor that blocks T and B cell function or alters an inflammatory response.

10. A method for production of a cell line which does not activate innate or adaptive immune responses, said method comprising modifying a cell line to:

not express Class I epitopes or Class II epitopes or to include an additional factor which mimics the loss of Class I and/or Class II activity; and

to overexpress IL-10 factor or MIF factor.

11. The method of claim 10 wherein the cell line is modified to not express Class I epitopes and Class II epitopes.

12. The method of claim 10 wherein the cell line is modified to overexpress IL-10 factor and MIF factor.

13. The method of any of claims 10 through 12 wherein the cell line is modified by knocked in safe harbor sites or transfection by transposon.

14. A nucleic acid construct for insertion or integration into a cell, said construct comprising an IL-10 gene and/or an MIF gene for overexpression in a safe harbor of the cell.