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Declarations under Rule 4.17:
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

(54) Title: METHODS AND COMPOSITIONS FOR EDITING THE B2M LOCUS IN B CELLS

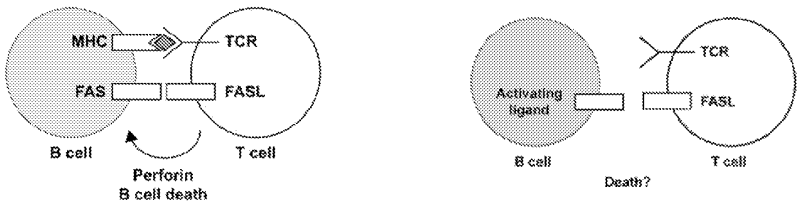

FIG. 5A

(57) Abstract: Some embodiments of the methods and compositions provided herein include preparing modified B cells. In some embodiments, an endogenous beta-2 microglobulin (B2M) gene in a B cell is modified. Some embodiments relate to increasing the resistance of modified B cells to killing by allogeneic immune cells. In some embodiments, the endogenous B2M gene is inactivated increasing the resistance of the modified B cell to killing by allogeneic immune cells. In some embodiments, a replacement MHC-I is inserted into an inactivated endogenous B2M gene increasing the resistance of the modified B cell to killing by allogeneic immune cells. Some embodiments include enriching for successfully modified cells.

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