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(54) Title: ENGINEERING T-CELL RECEPTORS

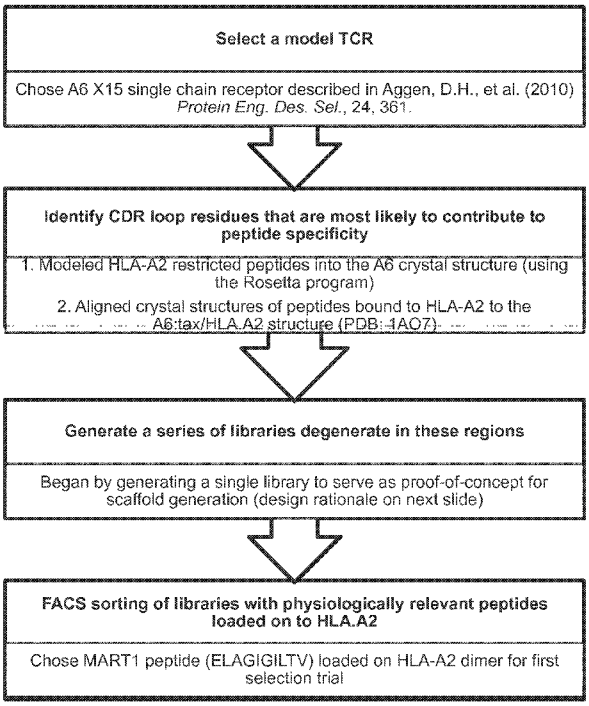


FIG. 1

(57) Abstract: The use of model T cell receptors (TCRs) as scaffolds for in vitro engineering of novel specificities is provided. TCRs with de novo binding to a specific peptide-major histocompatibility complex (MHC) product can be isolated by: 1) mutagenizing a T cell receptor protein coding sequence to generate a variegated population of mutants (a library), 2) selection of the library of TCR mutants with the specific peptide-MHC, using a process of directed evolution and a "display" methodology (e.g., yeast, phage, mammalian cell) and the peptide-MHC ligand. The process can be repeated to identify TCR variants with improved affinity for the selecting peptide-MHC ligand.

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