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(54) Title: B CELL LINEAGE BASED IMMUNOGEN DESIGN WITH HUMANIZED ANIMALS

Steps of A B Cell Lineage Based Approach to Vaccine Design

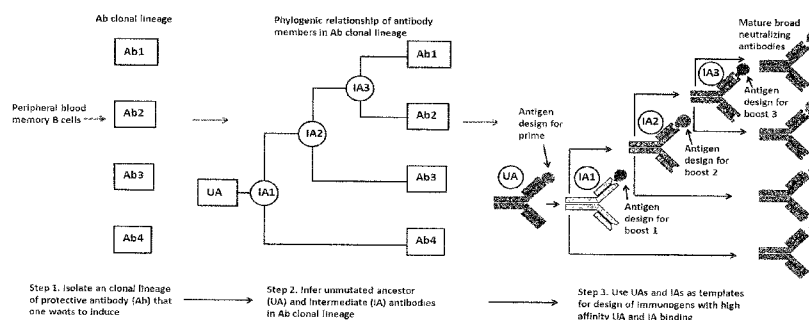


FIG. 1

(57) Abstract: Non-human animals with humanized immunoglobulin loci and methods of using them in vaccine design are described, as well as methods for making broadly neutralizing antibodies against infectious agents and pathogens are provided. Non-human animals with humanized immunoglobulin loci used in B-cell-lineage immunogen design in vaccine development are provided, as are methods of carrying out such design.