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(54) Title: MODIFIED MANA-TCES TARGETING TUMOR ANTIGENS AND ENGAGING T CELL RECEPTORS, AND METHODS OF USING THEREOF

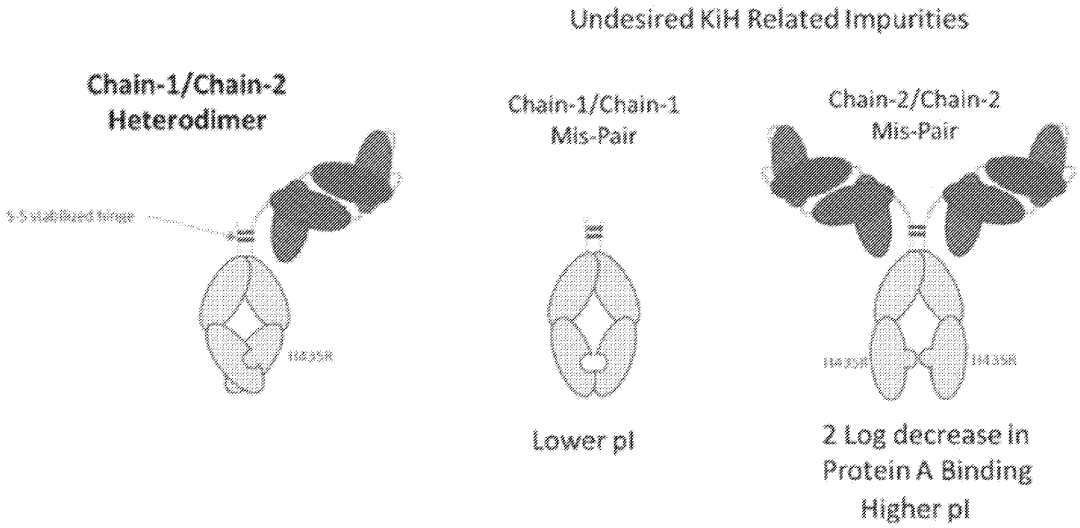


FIG. 2

(57) Abstract: The present disclosure provides modified bispecific molecules targeting (a) a tumor-specific mutant peptide or a mutation associated neoantigen (MANA) presented by human leukocyte antigen (HLA) on the surface of target cancer cells; and (b) a surface protein (*e.g.*, CD3) expressed on effector immune cells (*e.g.*, T cells), as well as methods of using the same for cell therapy to diagnose, prevent, and/or treat human diseases including cancer. The bispecific molecules are modified to additionally comprise a domain orientation modification, a linker modification and a functional moiety including, for example, an Fc fragment, a serum albumin, and/or a polyethylene glycol (PEG) group, that can improve their potency, therapeutic index, half-life, and manufacturability, while maintaining the functionality and specificity in the treatment of diseases such as cancer.

[Continued on next page]

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