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(54) Title: CYSTEINE ENGINEERED ANTIBODIES AND CONJUGATES

(57) Abstract: Antibodies are engineered by replacing one or more amino acids of a parent antibody with non cross-linked, highly reactive cysteine amino acids. Antibody fragments may also be engineered with one or more cysteine amino acids to form cysteine engineered antibody fragments (ThioFab). Methods of design, preparation, screening, and selection of the cysteine engineered antibodies are provided. Cysteine engineered antibodies (Ab), optionally with an albumin-binding peptide (ABP) sequence, are conjugated with one or more drug moieties (D) through a linker (L) to form cysteine engineered antibody-drug conjugates having Formula I: Ab-(L-D)$_p$ I where p is 1 to 4. Diagnostic and therapeutic uses for cysteine engineered antibody drug compounds and compositions are disclosed.

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