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(54) Title: COVALENTLY MODIFIED ANTIGENS FOR IMPROVED IMMUNE RESPONSE AND/OR STABILITY

(57) Abstract: Covalently modified polypeptide antigens having improved immunogenicity and/or stability, as well as compositions, cells, and methods relating thereto, are described herein. Polypeptide antigens are covalently conjugated to a one or more of steroid acid moieties to improve their stability and/or to trigger improved cellular immunity, or improved cellular and humoral immunity, against the antigen upon administration to a subject. The steroid acids include bile acids and bile acid analogs that enhance endocytosis and/or endosomal escape of endosomally trapped cargoes by potentiating enzymatic cleavage of sphingomyelin to ceramide within endosomal membranes. The steroid acid moieties may be pre-conjugated to a peptide, and the steroid acid-peptide moiety subsequently conjugated to the polypeptide antigen. The peptide may comprise one or more domains that impart an additional functionality to the modified polypeptide antigen.



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