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(54) Title: ENGINEERED OUTER DOMAIN (EOD) OF HIV GP120 AND MUTANTS THEREOF

(57) Abstract: The invention relates to an engineered outer domain (eOD) of HIV gp120 and mutants thereof and methods of making and using the same. The mutant eODs may be advantageous for the elicitation of CD4-binding site (CD4bs)-directed broadly-neutralizing antibodies (bnAbs) and/or improve binding to mature VRCOl and/or improve binding to germline VRCOl and the germlines of other VH1-2 derived broadly-neutralizing antibodies. The mutant eODs may also include glycan-masking mutations on eOD. The present invention also includes fusions of eOD to various protein multimers to enhance immunogenicity as well as the design of cocktails of different eODs that represent the full diversity of HIV sequences within the VRCOl epitope and surroundings.