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(54) Title: COMPUTATIONALLY OPTIMIZED BROADLY REACTIVE ANTIGENS FOR H3N2, H2N2, AND B INFLUENZA VIRUSES

(57) Abstract: Described herein is the generation of optimized H3N2, H2N2 and B influenza HA polypeptides for eliciting a broadly reactive immune response to influenza virus isolates. The optimized HA polypeptides were developed through a series of HA protein alignments, and subsequent generation of consensus sequences, based on H3N2, H2N2 and B influenza isolates. Provided herein are optimized H3N2, H2N2 and B influenza HA polypeptides, and compositions, fusion proteins and VLPs comprising the HA polypeptides. Further provided are codon-optimized nucleic acid sequences encoding the HA polypeptides. Methods of eliciting an immune response against influenza virus in a subject are also provided by the present disclosure.

