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(54) Title: COMPUTATIONALLY OPTIMIZED BROADLY REACTIVE ANTIGENS FOR H5N1 AND H1N1 INFLUENZA VIRUSES

(57) Abstract: Described herein is the generation of optimized H5N1 and H1N1 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 H5N1 and H1N1 influenza isolates. Provided herein are optimized H5N1 and H1N1 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.

