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(54) Title: COMPOSITIONS AND METHODS FOR IMPROVED VACCINATION

(57) Abstract: Provided is a composition comprising a first mRNA construct comprising a first open reading frame (ORF), wherein the first ORF encodes an antigen; wherein the first ORF is operatively linked to at least one untranslated region (UTR), wherein the UTR comprises at least a first organ protection sequence (OPS), and wherein the first OPS comprises at least two micro- RNA (miRNA) target sequences, wherein each of the at least two miRNA target sequences are optimised to hybridise with a corresponding miRNA sequence. Also provided are further compositions comprising mRNA constructs comprising an ORF and an OPS wherein the ORF encodes a proinflammatory cytokine, and methods including one or both of these compositions for the treatment and prevention of disease such as pathogenic disease.



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