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(54) **Title:** RIBONUCLEIC ACIDS WITH 4'-THIO-MODIFIED NUCLEOTIDES AND RELATED METHODS

(57) **Abstract:** Disclosed are messenger RNA molecules and related compositions incorporating a 4'-thio modification in the furanose ring of at least one nucleotide residue, and methods of using these mRNAs to produce an encoded therapeutic protein *in vivo* and to treat or prevent diseases or disorders. In certain embodiments, the 4'-thio modified mRNA provides for enhanced stability and/or reduced immunogenicity in *in vivo* therapies.

