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(54) Title: S-METHYLTHIORIBOSE KINASE POLYPEPTIDES AND PROCESSES FOR MAKING AND USING S-METHYLTHIORIBOSE KINASE POLYPEPTIDES

(57) Abstract: The present disclosure provides MTR kinase polypeptides having improved properties as compared to a naturally occurring wild-type MTR kinase polypeptide including the capability of phosphorylating D-ribose and 5'-D-isobutyrylribose to give alpha-D-ribose-1-phosphate and alpha 5'-D-isobutyrylribose-1-phosphate. Also provided are polynucleotides encoding the MTR kinase polypeptides, host cells capable of expressing the MTR kinase polypeptides, and methods of using the MTR kinase polypeptides to synthesize alpha-D-ribose-1-phosphate and alpha 5'-D-isobutyrylribose-1-phosphate.

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