Creative Enzymes®

Recombinant mRNA Cap-2'-O-Methyltransferase

Cat. No. COV-010

Lot. No. (See product label)

Introduction

Description	mRNA Cap 2´ -O-methyltransferase was derived from a recombinant E. coli strain that carries the gene for the vaccinia mRNA Cap 2´-O-Methyltransferase. This enzyme adds a methyl group at the 2´-O position of the first nucleotide adjacent to the cap structure at the 5´ end of the RNA. The enzyme utilizes S-adenosylmethionine (SAM) as a methyl donor to methylate capped RNA (cap-0) resulting in a cap-1 structure. The Cap 1 structure can increase the translation efficiency, improving the expression of mRNA in transfection and microinjection experiments. This enzyme specifically requires RNA with an m7GpppN cap as substrate. It cannot utilize RNA with pN, ppN, pppN or GpppN at the 5´ end. Capped RNA may be prepared via in vitro transcription using cap analog or through enzymatic capping using the Vaccinia Capping Enzyme.
Applications	To improve mRNA expression during microinjection and transfection experiments.

Product Information

Source	E. coli
Form	Liquid
Activity	50 U/μL
Buffer	20 mM Tris-HC (pH 8.0，25°C), 100 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 0.1% Triton X-100, 50% glycerol.
Unit Definition	One unit is defined as the amount of enzyme required to methylate 10 pmoles of 80 nt capped RNA transcript in 1 hour at 37°C.

Storage and Shipping Information

Storage	at -20 °C (Avoid repeated freeze-thaw cycles)