m7G(5')ppp(5')G RNA Capping Analog

Cat. No. 15619-018
Size: 25 OD260 units
Store at -20°C.

Description:
The 5' terminal m7G cap present on most eukaryotic mRNAs promotes translation *in vitro* at the initiation level (1,2,3). For most RNAs, elimination of the cap structure causes a loss of stability, especially against exonuclease degradation (4), and a decrease in the formation of the initiation complex of mRNAs for protein synthesis (4,5). Certain prokaryotic mRNAs containing a 5'-terminal cap structure are translated as efficiently as or more efficiently than eukaryotic mRNAs in a eukaryotic cell-free protein synthesizing system (5). Also a cap requirement has been observed for splicing eukaryotic substrate RNAs (6).

A method using *E.coli* RNA polymerase primed with m7G(5')ppp(5')G or m7G(5')pp(5')A for an efficient *in vitro* synthesis of capped RNAs has been developed by Contreas (7). Larger amounts of capped RNAs are produced by transcription systems using SP6 RNA polymerase primed with m7G(5')ppp(5')G (6).

Unit Definition:
Addition of 137 μl of water gives approximately a 10 mM solution.

MW = 846 (2 Na, water not determined)  
\( \lambda_{max} = 254 \text{ nm} \)  
25 OD units = 1.16 mg = 1.37 \( \times 10^6 \) moles
25 OD units dissolved in 137 μl of water = 10 mM solution

Doc. Rev.: 05/18/01

For technical support, email tech_support@invitrogen.com.
For country-specific contact information, visit www.invitrogen.com.
Quality Control:
This product has passed the following quality control assays: Determination of optical density and performance evaluation in an \textit{in vitro} translation assay using CAT mRNA.

References: