

Perform fast, efficient preparation of Cap 1-RNA for optimal mRNA translation

ScriptCap™ 2'-O-Methyltransferase Kit

Product Intro

The ScriptCap™ 2'-O-Methyltransferase Kit provides conversion of Cap 0-RNA from any source to Cap 1-RNA, which is typically found on most eukaryotic mRNAs. The kit can additionally be used simultaneously with ScriptCap™ m⁷G Capping System to achieve nearly 100% Cap 1-capping in a single reaction.

Benefits

- **Effective conversion:** Achieve nearly 100% Cap 1-RNA capping.
- **Flexible input:** Prepare Cap 1-RNA from any source of Cap 0-RNA.
- **Fast workflow:** Produce Cap 1-RNA from start to finish in just 45 minutes.
- **Improved translation efficiency:** Cap 1 methylation increases mRNA translation in cells.

Product Description

The [ScriptCap™ 2'-O-Methyltransferase Kit](#) converts Cap 0-RNA to Cap 1-RNA, providing optimal mRNA translation (Figure 1). Each reaction methylates 60 µg of Cap 0-RNA. Cap 0-RNA can be produced by enzymatic capping with the [ScriptCap™ m⁷G Capping System](#) or by *in vitro* transcription with a dinucleotide cap analog (e.g. using [MessageMAX™ T7 ARCA-Capped Message Transcription Kit V2](#)). The kit can also synthesize Cap 1-RNA from uncapped RNA in a single reaction with the ScriptCap™ m⁷G Capping System and S-adenosyl-methionine (SAM). ScriptCap™ capped RNA can be added directly to [A-Plus™ Poly\(A\) Polymerase Tailing Kit](#) reactions for 3' poly(A) tailing.

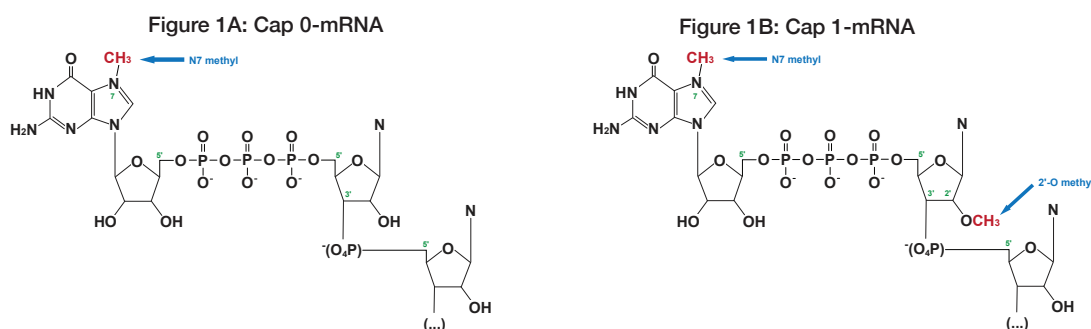


Figure 1: Cap 0-RNA and Cap 1-RNA. Cap 0-RNA from any source is converted to Cap 1-RNA using 2'-O-Methyltransferase.

Product Performance

A standard ScriptCap™ 2'-O-Methyltransferase Kit reaction converts 60 µg of Cap 0-RNA to Cap 1-RNA. Some RNA transcripts can form stable secondary structures (homodimers and hairpins) involving the 5'-most nucleotides of the transcript which severely limits access to the ScriptCap™ 2'-O-Methyltransferase Enzyme. To increase the capping efficiency of such RNAs, use longer or hotter heat denaturation conditions than those noted in the protocol. Times and temperatures required will vary.

Ordering information

Catalog Number	Description
C-SCMT0625	ScriptCap™ 2'-O-Methyltransferase Kit (25 reactions)

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