Next-level IVT, all together

High-yield IVT kits with CleanCap® capping technology

TriLink BIOTECHNOLOGIES
part of Maravai LifeSciences

Synthesize high-yield, low-dsRNA capped RNA in one step

CleanCap® IVT kits: where simplicity meets superior RNA

Streamline your mRNA synthesis with TriLink's CleanCap® IVT kits — the all-in-one solution for high-performance RNA synthesis. Designed for efficiency and excellence, these kits include all components required to generate high-quality mRNA using *in vitro* transcription (IVT) and CleanCap® co-transcriptional capping.

Two powerful kits for high-yield mRNA synthesis

Whether you are new to IVT or maximizing protein expression, we offer two kits to achieve capped mRNA with high yield and low dsRNA in one step.

CleanCap® AG (3' OMe) CleanScript™ IVT Kit

- Versatile kit that requires minimal optimization
- Features CleanCap® AG (3' OMe) cap analog, which is an improved version of the original CleanCap® AG, offering higher protein expression

CleanCap® M6 IVT Kit, High Yield

- Includes our newest cap analog, CleanCap® M6, for those aiming for even higher protein expression than with enzymatic caps and previous CleanCap® AG analogs
- May require 5'-UTR sequence review for optimal yield

Choice of mRNA cap affects protein expression

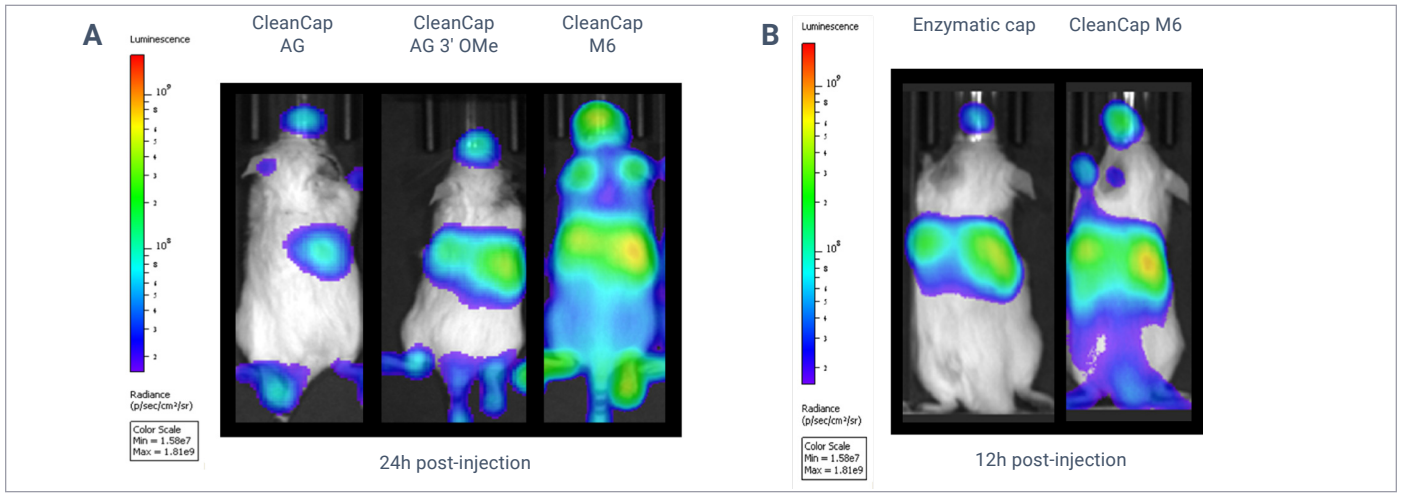

Figure 1. Higher protein expression from mRNA with CleanCap M6 cap analog than with (A) its predecessors and (B) enzymatic caps.

Enabled by innovative RNA technologies

CleanCap® technology

Optimized protocol

CleanScribe™ RNA Polymerase

Modified rNTP

Both of our mRNA synthesis kits with CleanCap® capping technology are designed for:

- **Up to 85% dsRNA reduction** by incorporating our novel CleanScribe™ RNA Polymerase, in place of wild-type T7 RNA polymerase, in their enzyme mixes
- **Base modification ready** by including N1-methylpseudouridine (N1MePsU) for researchers who want base-modified mRNA
- **Up to 10 mg/mL mRNA yield** through distinct optimized protocols. The CleanCap® AG (3' OMe) kit follows TriLink's optimized CleanScript® IVT while the CleanCap® M6 kit utilizes a supplementary pulse-feed protocol to increase yield.

TriLink's novel RNA polymerase lowers dsRNA in mRNA synthesis

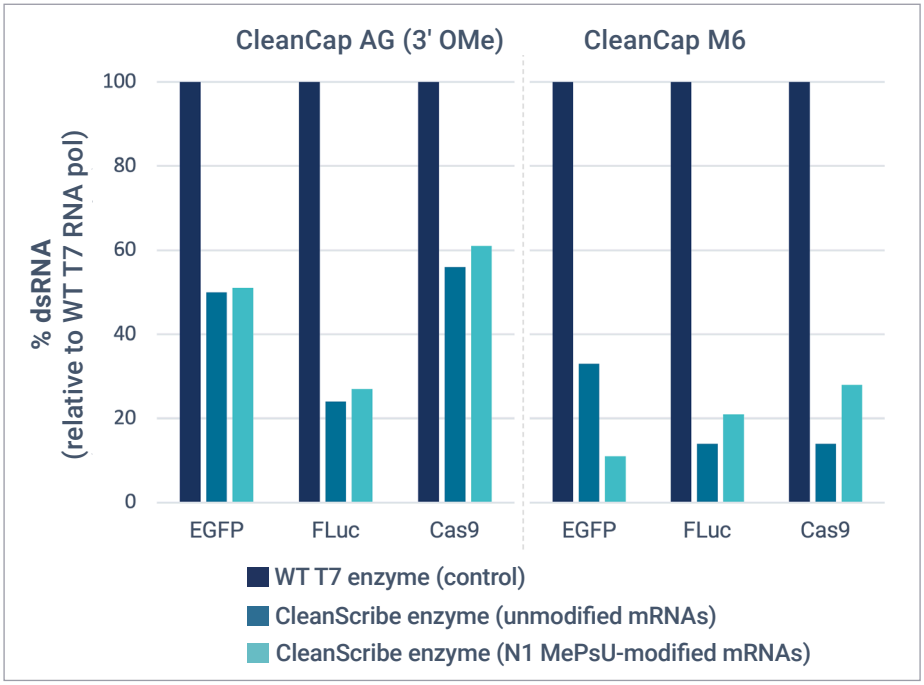

Figure 2. Reduced dsRNA formation by CleanScribe RNA Polymerase in synthesis of unmodified or N1MePsU–modified mRNAs with CleanCap AG (3' OMe) and CleanCap M6 cap analogs.

Optimized IVT increases CleanCap AG (3' OMe) mRNA yield

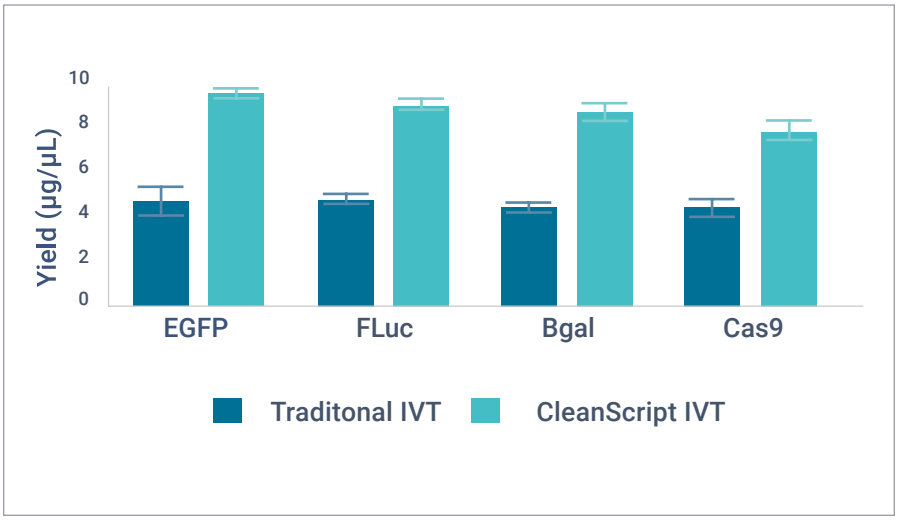

Figure 3. Up to a two-fold increase in CleanCap AG (3' OMe) mRNA to 10 mg/mL following TriLink's CleanScript IVT protocol than the standard protocol.

Pulse feeding increases CleanCap M6 mRNA yield

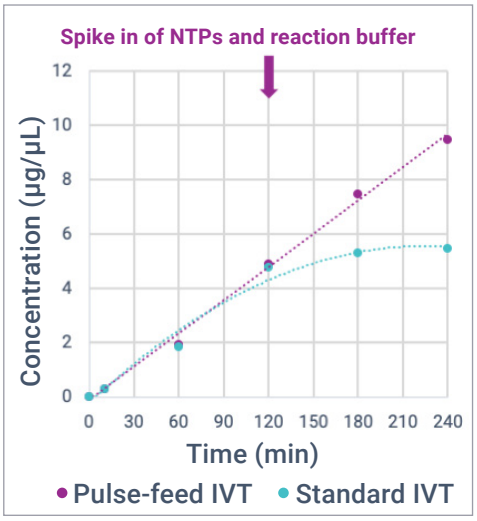

Figure 4. Up to a two-fold increase in CleanCap M6 mRNA to 10 mg/mL after pulse feeding at 2 hours.

Which IVT kit is right for you?

Choosing the best IVT kit depends on your specific needs. Explore our two kits, summarized and compared in the table below. Each offers unique advantages based on your desired protein expression, downstream applications, and IVT expertise.

	CleanCap® AG (3' OMe) CleanScript™ IVT Kit	CleanCap® M6 IVT Kit, High Yield
Cap analog	CleanCap® AG (3' OMe)	CleanCap® M6
Protein expression level	Higher than the original CleanCap® AG analog	Higher than enzymatic caps and previous CleanCap AG analogs
Construct to make	mRNA with AG start	mRNA with AG start
Considerations	Versatile	5' UTR sequence may affect yield
Included modified rNTP	N1-methylpseudouridine	N1-methylpseudouridine
Included 10X buffer	CleanScript™ IVT Buffer	M6 IVT Buffer
Included enzyme mix	AG CleanScribe™ RNA Polymerase Mix	M6 CleanScribe™ RNA Polymerase Mix
Expected yield (per 100 µL rxn)	0.8-1 mg	0.8-1 mg*

*Following its pulse-feed protocol

Ordering information

Description	Catalog number	Reaction size
CleanCap® AG (3' OMe) CleanScript™ IVT Kit	K-7413-25	25 x 100 µL or 125 x 20 µL
CleanCap® M6 IVT Kit, High Yield	K-7453-25	

Related products

Ready-made mRNAs for experimental controls

Description	Catalog number	Pack sizes
CleanCap® M6 EGFP mRNA (N1MePsU)	L-8101	0.1 mg, 1 mg, 5 mg, custom
CleanCap® M6 FLuc mRNA (N1MePsU)	L-8102	
CleanCap® M6 mCherry mRNA (N1MePsU)	L-8103	
CleanCap® M6 Cas9 mRNA (N1MePsU)	L-8106	
CleanCap® M6 EPO mRNA (N1MePsU)	L-8109	
CleanCap® M6 Cre mRNA (N1MePsU)	L-8111	

For more information, visit **trilinkbiotech.com/cleancap-ivt-kits**.
Contact us at **800.863.6801** or **support@trilinkbiotech.com** for product support.

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