

# PRODUCT INFORMATION

## EGFP mRNA (Cap-1; mo<sup>5</sup>U)

Item No. 39800

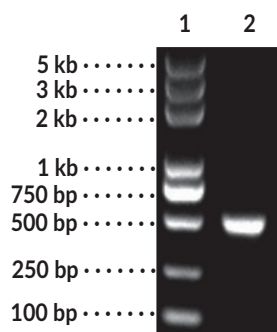


### Overview and Properties

<b>Synonym:</b>	EGFP mRNA (Cap-1; 5-moUTP)
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥6 months
<b>Supplied in:</b>	1 mM Sodium citrate, pH 6.4
<b>Concentration:</b>	1 mg/ml
<b>Ex./Em. Max:</b>	489/511 nm

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Image



Lane 1: Markers

Lane 2: R1016 mRNA

EGFP mRNA (Cap-1; mo<sup>5</sup>U) was analyzed by 1.5% native TAE agarose gel.

### Description

EGFP mRNA (Cap-1; mo<sup>5</sup>U) encodes enhanced GFP (EGFP), a variant of *A. victoria* GFP that contains chromophore mutations that increase the sensitivity of the protein and displays excitation and emission maxima of 489 and 511 nm, respectively.<sup>1</sup> It is capped using a co-transcriptional capping method, resulting in the naturally occurring Cap 1 structure with high capping efficiency. EGFP mRNA is also polyadenylated and modified with 5-methoxy-UTP (mo<sup>5</sup>U) to inhibit RNA-mediated innate immune activation. Encapsulation of EGFP mRNA (Cap-1; mo<sup>5</sup>U) in lipid nanoparticles (LNPs) can be used for mRNA delivery and expression of EGFP *in vitro* or *in vivo*.<sup>2,3</sup>

### References

1. Zhang, G., Gurtu, V., and Kain, S.R. An enhanced green fluorescent protein allows sensitive detection of gene transfer in mammalian cells. *Biochem. Biophys. Res. Commun.* **227**(3), 707-711 (1996).
2. Huang, Y., Yang, M., Wang, N., *et al.* Intracellular delivery of messenger RNA to macrophages with surfactant-derived lipid nanoparticles. *Materials Today Advances* **16**, 100295 (2022).
3. Li, M., Huang, Y., Wu, J., *et al.* A PEG-lipid-free COVID-19 mRNA vaccine triggers robust immune responses in mice. *Mater. Horiz.* **10**(2), 466-472 (2023).

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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**CAYMAN CHEMICAL**  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM