Product Data Sheet

EZ Cap™ Cy5 Firefly Luciferase mRNA (5-moUTP)

Modification:	EZ Cap, Cy5-UTP, 5-moUTP, poly A
Concentration	1 mg/ml
Buffer:	1 mM Sodium Citrate, pH 6.4
Storage:	-40°C or below
Expiration Date:	6 months

Description

EZ Cap™ Cy5 Firefly Luciferase mRNA (5-moUTP) will express luciferase protein once entering cells which is initially extracted from firefly Photinus pyralis . This enzyme catalyzes ATP-dependent D-luciferin oxidation and lead to yield chemiluminescence at about 560 nm wavelength. Firefly Luciferase is a frequently used bioluminescent reporter for gene regulation and function study. It is applicable in assays for mRNA delivery, translation efficiency, cell viability and in vivo imaging etc.

EZ Cap™ Cy5 Firefly Luciferase mRNA (5-moUTP) is provided at a concentration of 1mg/ml. It is co-transcriptional capped by EZ Cap™ Reagent AG (Catalog No. B8178) which generates a cap 1 structure with high efficiency. Cap 1 structure is more ideal for mammalian systems and possess higher transcription efficiency than Cap 0 structure (ARCA and mCap). The addition of 5-moUTP (5-Methoxy-UTP) and poly(A) tail suppress RNA-mediated innate immune activation and increase the stability and lifetime of the mRNA in vitro and in vivo. Poly(A) tail also plays an important role in enhancing the efficiency of translation initiation. Cy5 is a synthetic red fluorescent dye with maximum excitation and emission wavelengths of 650 nm and 670 nm, respectively. Cy5-UTP and 5-moUTP is used in a ratio of 1:3 when transcribed. Substitution in this ratio results in mRNA that is easy to visualize and still can be translated in cell culture. In the rough, there is an anti-correlation between translation efficiency and Cy5-UTP substitution.

All the modifications are intention to mimics a fully processed mature mRNA. EZ Cap™ Cy5 Firefly Luciferase mRNA (5-moUTP) is an ideal product to observing mRNA delivery, localization, translation and other behaviors.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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