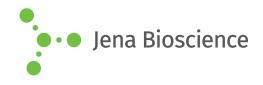
# **DATA SHEET**





# $\blacksquare$ AP<sub>3</sub>G (A cap) - Solution

(ApppG), GP3A, GpppA, G(5')ppp(5')A P1-(5'-Adenosyl) P3-(5'-guanosyl) triphosphate, Sodium salt

Cat. No.	Amount
NU-941S	10 μl (100 mM)
NU-941L	5 x 10 μl (100 mM)

## For general laboratory use.

**Shipping:** shipped on gel packs **Storage Conditions:** store at -20 °C

Short term exposure (up to 1 week cumulative) to ambient

temperature possible.

**Shelf Life:** 12 months after date of delivery **Molecular Formula:** C<sub>20</sub>H<sub>27</sub>N<sub>10</sub>O<sub>17</sub>P<sub>3</sub> (free acid) **Molecular Weight:** 772.41 g/mol (free acid)

Purity: ≥ 95 % (HPLC)

Form: solution in water

**Color:** colorless to slightly yellow **Concentration:** 100 - 110 mM

Exact Mass: 772.08 g/mol (free acid)

**pH:** 7.5 ±0.5

Spectroscopic Properties:  $\lambda$  259 nm,  $\epsilon$  27.0 L mmol<sup>-1</sup> cm<sup>-1</sup> (Tris-HCl pH

7.5)

### **Applications:**

Synthesis of mRNA with a non-functional cap analog (ApppG) to estimate the level of cap-independent translation.<sup>[1]</sup>

Investigation of stress related (Near UV and oxidation) product formation in  $\text{bacteria}^{[2\text{-}4]}$ 

#### Selected References:

[1] Nowakowska et al. (2014) Cap analogs containing 6-thioguanosine-reagents for the synthesis of mRNAs selectively photo-crosslinkable with cap-binding biomolecules. Org. Biomol. Chem. 12 (27):4841.

[2] Kramer et al. (1988) Near-UV stress in Salmonella typhimurium: 4-thiouridine in tRNA, ppGpp, and ApppGpp as components of an adaptive response. *J. Bacteriol.* **170 (5)**:2344.

[3] Bochner et al. (1984) AppppA and related adenylylated nucleotides are synthesized as a consequence of oxidation stress. Cell **37 (1)**:225.

[4] VanBogelen *et al.* (1987) Differential induction of heat shock, SOS, and oxidation stress regulons and accumulation of nucleotides in Escherichia coli. *J. Bacteriol.* **169 (1)**:26.