

Product Data Sheet

Product Name: 2-5A TEA

Cat. No.: GC81654

Chemical Properties

Cas. No. 72351-33-8

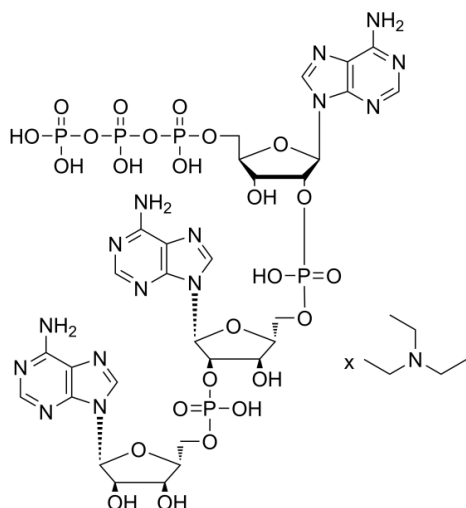
Formula $C_{30}H_{40}N_{15}O_{25}P_5 \cdot xC_6H_{15}N$ M.Wt 1165.59

Solubility Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

2-5A TEA (2',5'-ApApA TEA) is a 5'-triphosphorylated (2',5') oligoadenylate. When covalently linked to an antisense molecule complementary to the target sequence, 2-5A TEA activates RNase L, which subsequently degrades the target RNA bound to the 2-5A TEA chimera. 2-5A TEA can be used in research related to respiratory syncytial virus infection, colorectal adenocarcinoma and melanoma [1] [2] [3].

In Vivo, 2-5A (10 µg; peritumoral injection; once daily; 3 consecutive days) TEA complexed with lipofectamine significantly inhibits MC38 colorectal carcinoma tumor growth in wild-type C57BL/6J

Caution: Product has not been fully validated for medical applications. For research use only.

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mice^[3]. 2-5A (10 µg; peritumoral injection; once daily; 3 consecutive days) TEA complexed with lipofectamine significantly inhibits B16 melanoma tumor growth in wild-type C57BL/6J mice^[3]. 2-5A (10 µg; peritumoral injection; once daily; 3 consecutive days) TEA complexed with lipofectamine significantly inhibits sgRnasel MC38 colorectal carcinoma tumor growth in wild-type C57BL/6J mice^[3]. 2-5A (10 µg; peritumoral injection; once daily; 3 consecutive days) TEA complexed with lipofectamine does not inhibit MC38 colorectal carcinoma tumor growth in Rnasel^{-/-} mice^[3].

In Vitro, 2-5A (1 µM; 4 h) TEA is imported by human HEK293T cells and BJ1 fibroblasts to activate RNase L-dependent IFN/ISG induction, while mouse MEFs, MC38 cells, BMDMs, human A549 cells, and THP-1 monocytes do not exhibit robust 2-5A TEA import activity^[3].

References:

- [1]. Barnard DL, et al. 2-5A-DNA conjugate inhibition of respiratory syncytial virus replication: effects of oligonucleotide structure modifications and RNA target site selection. *Antiviral research*. 1999 Apr;41(3):119-34.
- [2]. Wang S, et al. 2-5A is an immunotransmitter that fuels RNase L immunity. *Immunity*. 2025 Apr 08;58(4):770-772.
- [3]. Huai W, et al. OAS cross-activates RNase L intercellularly through cell-to-cell transfer of 2-5A to spread innate immunity. *Immunity*. 2025 Apr 08;58(4):797-810.e6.
- [4]. Kalinichenko EN, et al. 3'-Fluoro-3'-deoxy analogs of 2-5A 5'-monophosphate: binding to 2-5A-dependent endoribonuclease and susceptibility to (2'-5')phosphodiesterase degradation. *Biochemical and biophysical research communications*. 1990 Feb 28;167(1):20-6.

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