

5'- Triphosphoguananylyl- (2' -->5')- adenosine (pppG(2',5')pA) Biochemical

5'- Triphosphoguananylyl- (2' -->5')- adenosine (pppG(2',5')pA), sodium salt

CATALOG #
AAA52703

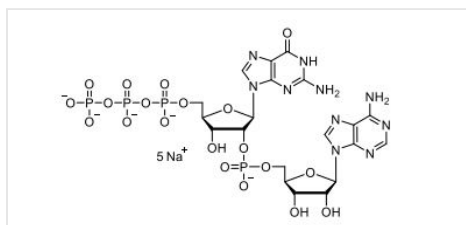
PRODUCT SYNONYMS

5'- Triphosphoguananylyl- (2' -->5')- adenosine (pppG(2'; 5')pA); sodium salt; pppG(2'; 5')pA; AMP-2'-GTP; 5')pA) biochemical

PRODUCT SPECIFICATIONS

Purity/Purification	Typical purity is >95% (HPLC/ UV/ 256 nm) at time of quality control and packing. However, actual purity depends on storage and transport conditions. The product is not sterile and has not been tested for endotoxins.
Form/Format	Pentasodium. Aqueous solution of the sodium salt (10 mM).
CAS Number	1445905-50-9
Formula	C ₂₀ H ₂₈ N ₁₀ O ₂₀ P ₄ (for free acid)
Specification	Aqueous solution of the sodium salt (10 mM). Other saltforms of pppG (2',5') pA may be available upon request. Micromolar quantities are determined by UV at lambda max. When opening the tube please make sure that no liquid is lost within the cap. A short spin-down in a bench centrifuge is recommended before use.
Properties	pppG(2',5')pA is considered to be the linear catalytic intermediate in the enzymatic production of 2',3'-cGAMP (aka c[G(2',5')pA(3',5')p]) by the mammalian innate immune DNA sensor cGAMP synthase (cGAS). According to Hall et al. (2017) human stimulator of interferon genes STING155-341 does not bind pppG(2',5')pA at concentrations of up to 50 uM.
UV	lambda max 256 nm, epsilon 25050, pH 7
Preparation and Storage	Ships on Dry Ice. pppG(2',5')pA is most stable when stored as aqueous solution in the freezer (-20°C necessary, -70° recommended), however, at ambient temperature the compound slowly starts to decompose. Thus, in order to maintain its original high quality it is recommended to allow thawing only before using the product. If you will not use up the vial with one application, please aliquot the contents of the vial in order to avoid repeated freeze/thaw cycles for the rest. When making such aliquots, be sure to operate quickly and to freeze the vial again as soon as possible.

IMAGES



Structure

ADDITIONAL INFORMATION

Related Product Information for 5'- Triphosphoguananylyl- (2' -->5')- adenosine (pppG(2',5')pA) biochemical

In pppG (2',5') pA a 5'-GTP unit is connected with a 5'-AMP unit via a 2' to 5' linkage to form a linear dinucleotide

References

Hall, J.; Ralph, E.C.; Shanker, S.; Wang, H.; Byrnes, L.J.; Horst, R.; Wong, J.; Brault, A.; Dumlao, D.; Smith, J.F.; Dakin, L.A.; Schmitt, D.C.; Trujillo, J.; Vincent, F.; Griffor, M.; Aulabaugh A.E., Protein Sci., 26, 2367 - 2380 (2017): "The Catalytic Mechanism of Cyclic GMP-AMP Synthase (cGAS) and Implications for Innate Immunity and Inhibition" Kranzusch, P.J.; Lee, A.S.Y.; Wilson, S.C.; Soloviykh, M.S.; Vance, R.E.; Berger, J.M.; Doudna, J.A., Cell, 158, 1011 - 1021 (2014): "Structure-guided Reprogramming of Human cGAS Dinucleotide Linkage Specificity" Gao, P.; Ascano, M.; Wu, Y.; Barchet, W.; Gaffney, B.L.; Zillinger, T.; Serganov, A.A.; Liu, Y.; Jones, R.A., Cell, 153, 1094 - 1107 (2013): "Cyclic [G(2',5')pA(3',5')p] is the Metazoan Second Messenger Produced by DNA-activated Cyclic GMP-AMP Synthase".

NCBI AND UNIPROT INFORMATION

Molecular Weight

852.4 (for free acid)

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/biochemical/5-triphosphoguananylyl-2-5-adenosine-pppg-25-pa/52703>