

Product Data Sheet

Product Name: ARL 67156 trisodium salt

Cat. No.: GC17225

Chemical Properties

Cas. No. 1021868-83-6

SMILES CCN(C1=C(N=CN2[C@@]3([H])[C@@](O)([H])[C@@](O)([H])[C@@](O3)([H])COP(O)(OP(C(Br)(P([O-])([O-])=O)Br)([O-])=O)=O)C2=NC=N1)CC.[Na+].[Na+].[Na+]

Formula $C_{15}H_{21}Br_2N_5O_{12}P_3.3Na$ M.Wt 785.06

Solubility <15.78mg/ml in Water Storage Desiccate 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.

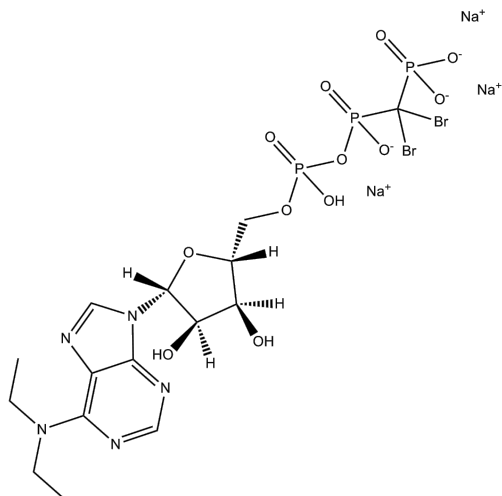
Caution: Product has not been fully validated for medical applications. For research use only.

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Structure



Protocol

Cell experiment [1]:

Cell lines HMC-1 cell

Preparation Method HMC-1 cells were placed into 6-well plates. After reaching 70% confluence, the cells were stimulated with ATP(10mM) in the absence or presence of exogenous CD39 or ARL 67156 trisodium salt (10µg/ml).

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Reaction
Conditions 10µg/ml; 24h

Applications CD39 decreased the surface expression of CXCR3 on both control and ATP-treated HMC-1 cells. ARL 67156 trisodium salt increased the surface expression of CXCR3 on ATP-treated HMC-1 cells.

Animal experiment [2]:

Animal models Male C57BL/6 mice

Preparation Method Mice were pre-treated with ARL 67156 trisodium salt(2mg/kg) intraperitoneally 1h before treatment with FBP (Fructose 1,6-bisphosphate; 100mg/kg) and blood was withdrawn from by cardiac puncture 24h later. Then, serum adenosine quantification was performed.

Dosage form 2mg/kg; i.p.

Applications ARL 67156 trisodium salt completely prevented the increase of serum adenosine concentration induced by FBP

References:

- [1] Gao YD, Cao J, Li P, Huang G, Yang J. Th2 cytokine-primed airway smooth muscle cells induce mast cell chemotaxis via secretion of ATP. *J Asthma*. 2014;51(10):997-1003.
- [2] Veras FP, Peres RS, Saraiva AL, et al. Fructose 1,6-bisphosphate, a high-energy intermediate of glycolysis, attenuates experimental arthritis by activating anti-inflammatory adenosinergic pathway. *Sci Rep*. 2015;5:15171.

Background

ARL 67156 trisodium salt is a selective inhibitor of ecto-ATPases^[1]. The Ki values of ARL 67156 trisodium salt against human NTPDase1(CD39), NTPDase3, and NPP1 were 11±3, 18±4, and

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12±3μM, respectively^[1].

In vitro, treatment with 10μg/ml ARL 67156 trisodium salt for 24 hours increased the surface expression of CXCR3 on ATP-treated HMC-1 cells^[2]. Treatment with 100μM ARL 67156 trisodium salt for 4 hours reduced HIV-1 replication in macrophages^[3]. Treatment with 30μM ARL 67156 trisodium salt for 5 seconds enhanced ATP-promoted norepinephrine release in the synaptosome of guinea pig hearts^[4].

In vivo, administration of ARL 67156 trisodium salt(2mg/kg; i.p.) for 24 hours completely prevented the FBP-induced increase in serum adenosine concentration in mice^[5].

References:

- [1] Lévesque SA, Lavoie EG, Lecka J, Bigonnesse F, Sévigny J. Specificity of the ecto-ATPase inhibitor ARL 67156 on human and mouse ectonucleotidases. *Br J Pharmacol*. 2007;152(1):141-150.
- [2] Gao YD, Cao J, Li P, Huang G, Yang J. Th2 cytokine-primed airway smooth muscle cells induce mast cell chemotaxis via secretion of ATP. *J Asthma*. 2014;51(10):997-1003.
- [3] Schachter J, Delgado KV, Barreto-de-Souza V, Bou-Habib DC, Persechini PM, Meyer-Fernandes JR. Inhibition of ecto-ATPase activities impairs HIV-1 infection of macrophages. *Immunobiology*. 2015;220(5):589-596.
- [4] Sesti C, Broekman MJ, Drosopoulos JH, Islam N, Marcus AJ, Levi R. EctoNucleotidase in cardiac sympathetic nerve endings modulates ATP-mediated feedback of norepinephrine release. *J Pharmacol Exp Ther*. 2002;300(2):605-611.
- [5] Veras FP, Peres RS, Saraiva AL, et al. Fructose 1,6-bisphosphate, a high-energy intermediate of glycolysis, attenuates experimental arthritis by activating anti-inflammatory adenosinergic pathway. *Sci Rep*. 2015;5:15171.

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