

Product Data Sheet

Product Name: 8-Azaadenosine

Cat. No.: GC50588

Chemical Properties

Cas. No. 10299-44-2

SMILES NC1=NC=NC2=C1N=NN2[C@@H]1O[C@H](CO)[C@@H](O)[C@H]1O

Formula C₉H₁₂N₆O₄ M.Wt 268.23

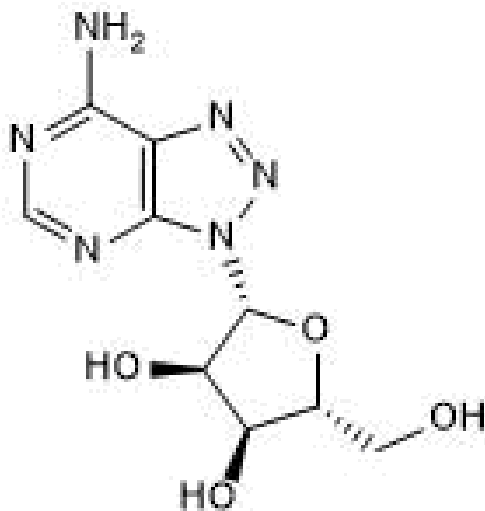
Solubility DMSO : 250 mg/mL (932.04 mM; Need ultrasonic); H₂O : 3.33 mg/mL (12.41 mM; ultrasonic and warming and heat to 60°C)

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



Protocol

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

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Cell experiment [1]:

Cell lines TPC1 and Cal62

8-Azaadenosine dissolved in water was added to the cell culture medium. MTT Preparation Method assays at the indicated time points at 100nM, 500nM, 1μM, and 2μM 8-Azaadenosine concentration.

Reaction
Conditions 100nM, 500nM, 1μM, and 2μM; 1-6d

Applications 8-Azaadenosine decreased cell viability/proliferation in a dose-dependent manner in TPC1 and Cal62 cells.

References:

[1] Ramírez-Moya, Julia et al. "ADAR1-mediated RNA editing is a novel oncogenic process in thyroid cancer and regulates miR-200 activity." *Oncogene* vol. 39,18 (2020): 3738-3753.

Background

8-Azaadenosine is a potent adenosine deaminase acting on RNA1 (ADAR1) inhibitor that reduces ADAR1-mediated A-to-I editing activity and prevents self-renewal of the K562 leukemic cell line^[1]. ADAR1-mediated A-to-I editing is an important pathway involved in the progression of various cancers, including thyroid cancer. 8-Azaadenosine inhibits proliferation, 3D growth, invasion, and migration in thyroid cancer cells^[2]. 8-Azaadenosine targets ADAR activity only and does not affect ADAR1 mRNA levels^[2].

In vitro, 8-Azaadenosine (0.1-2μM; 1-6d) decreased cell viability/proliferation in a dose-dependent manner in TPC1 and Cal62 cells. 8-Azaadenosine (1, 2μM; 72h) inhibited A-to-I editing activity of both TPC1 and Cal62 cells. 8-Azaadenosine (1, 2μM; 16h) reduced 3D growth and 2D invasion and migration in TPC1 and Cal62 cells^[2].

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- [1] Zipeto MA, Court AC, Sadarangani A, et al. ADAR1 Activation Drives Leukemia Stem Cell Self-Renewal by Impairing Let-7 Biogenesis. *Cell Stem Cell*. 2016;19(2):177-191.
- [2] Ramírez-Moya, Julia et al. "ADAR1-mediated RNA editing is a novel oncogenic process in thyroid cancer and regulates miR-200 activity." *Oncogene* vol. 39,18 (2020): 3738-3753.

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