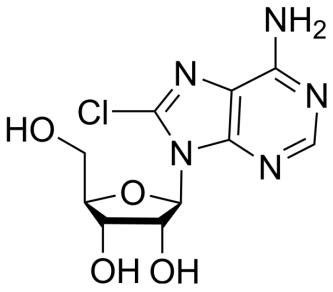
8-Chloroadenosine

Cat. No.:	HY-103400
CAS No.:	34408-14-5
Molecular Formula:	$C_{10}H_{12}ClN_5O_4$
Molecular Weight:	301.69
Target:	AMPK; Autophagy
Pathway:	Epigenetics; PI3K/Akt/mTOR; Autophagy
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (414.33 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3147 mL	16.5733 mL	33.1466 mL
	5 mM	0.6629 mL	3.3147 mL	6.6293 mL
	10 mM	0.3315 mL	1.6573 mL	3.3147 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

8-Chloroadenosine (8-Cl-Ado), a unique ribonucleoside analog, depletes endogenous ATP that subsequently induces the phosphorylation and activation of AMPK. 8-Chloroadenosine induces autophagic cell death. 8-Chloroadenosine effectively inhibited in vivo tumor growth in mice[1].

IC_{50} & Target

AMPK

In Vitro

8-Chloroadenosine (8-Cl-Ado; 10 μM; 24-72 hours) induces an autophagic flux in both LC3B-II and p62 levels[1].
8-Chloroadenosine (10 μM; 7-21 hours) induces phosphorylation of AMPK (Thr172) in a time-dependent manner in MCF-7 and BT-474 cells. Total AMPK protein levels were unchanged. 8-Chloroadenosine readily induces the phosphorylation of raptor Ser792 in MCF-7 cells. 8-Chloroadenosine (10 μM; 4-72 hours) induces ULK1 phosphorylation on Ser555 in MCF-7 and BT-474 cells[1].
8-Chloroadenosine attenuates mTOR activity in breast cancer cells. 8-Chloroadenosine is independent of p53[1].
8-Chloroadenosine (10 μM; 3 days) inhibits over 90% clonogenic survival in the MCF-7 breast cancer cell lines. The amount of apoptosis induction only reached ~30%[1].
8-Chloroadenosine (10 μM) treatment results in a rapid depletion of ATP within 12-hours in T47D, SK-BR-3, and ZR-75-1 cells [1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo	8-Chloroadenosine (25-100 mg/kg; IP; three times a week for 3 weeks) inhibits growth of both MCF-7 and BT-474 xenograft tumors with 100 mg/kg. 8-Chloroadenosine with 50 mg/kg dose does not affect the growth of the BT-474 xenograft tumors[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Christine M Stellrecht, et al. ATP directed agent, 8-chloro-adenosine, induces AMP activated protein kinase activity, leading to autophagic cell death in breast cancer cells. J Hematol Oncol. 2014 Mar 14;7:23.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA