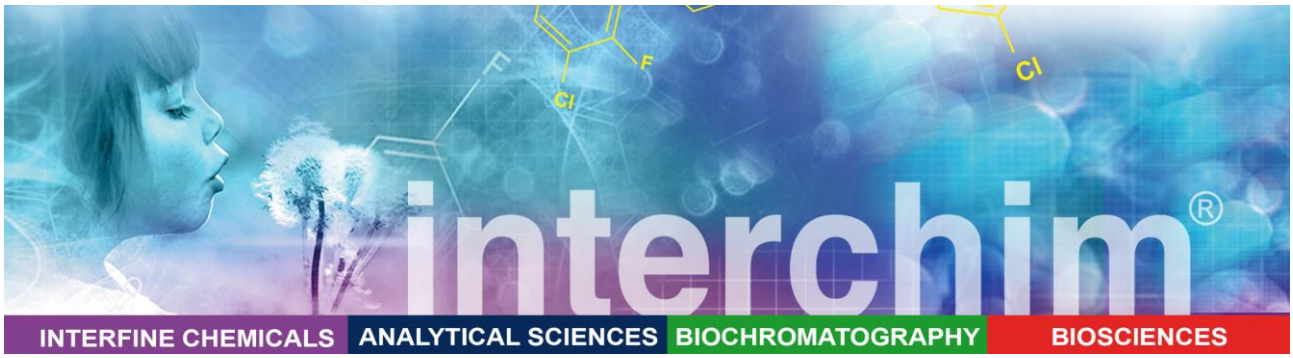
FT-BF8114



Cytarabine (cytosine arabinoside)

Product Description

Catalog #: BF8111, 50mg BF8112, 100mg
BF8113, 500mg BF8114, 1g BF8115, 10g
AXAUP0, 1ml 10mM in DMSO.

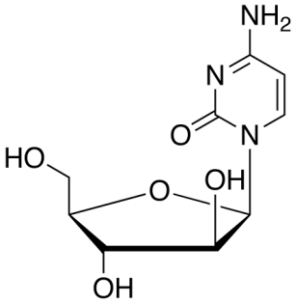
Name: **Cytarabine**
Syn: 4-Amino-1-β-D-arabinofuranosyl-2(1H)pyrimidinone;
Cytosine-β-D-arabinofuranoside
CAS : 147-94-4
Alternate CAS #: 69-74-9 (Hydrochloride)

MW : 243.22

Formula : $C_9H_{13}N_3O_5 \bullet (HCl)$

Purity : Appearance: White to Off-White Solid
Melting Point: >210ºC (dec.)
Soluble : in DMSO (Slightly), Ethanol (Slightly), Methanol (Slightly, Heated), Water (Slightl

Storage: Powder: -20°C (long term; possible at +4°C (2 years) (M)
In solvent: -80°C (6 months) -20°C (1 month)



Ask also for:

Cytarabine HCl #XLS210
Syn : Cytosine beta-D-Arabinofuranoside Hydrochloride
$C_9H_{13}N_3O_5 \bullet (HCl)$; MW: 279.68 ; CAS : 69-74-9

For Research Use Only

Introduction

Cytarabine is a nucleoside analog that selectively inhibits DNA synthesis (DNA polymerase) with an IC50 of 16 nM, by causing S phase cell cycle arrest . It does not inhibit RNA synthesis.

Applications: Cytarabine is used as an antineoplastic and antiviral.
Cytarabine, or cytosine arabinoside, is a chemotherapy agent used mainly in the treatment of cancers of white blood cells such as acute myeloid leukemia (AML) and non-Hodgkin lymphoma. It is also known as Ara-C (Arabinofuranosyl Cytidine). It destroys cancer cells by interfering with DNA synthesis.

In Vitro

Solubility : H2O : 48 mg/mL (197.35 mM; Need ultrasonic)
DMSO : 17.3 mg/mL (71.13 mM; Need ultrasonic and warming)
Preparation : 1mM = 1mg in 4.1115 mL

Cytarabine is phosphorylated into a triphosphate form (Ara-CTP) involving deoxycytidine kinase (dCK), which competes with dCTP for incorporation into DNA, and then blocks DNA synthesis by inhibiting the function of DNA and RNA polymerases. Cytarabine displays a higher growth inhibitory activity towards wild-type CCRF-CEM cells compared to other acute myelogenous leukemia (AML) cells with IC50 of 16 nM[1]. Cytarabine apparently induces apoptosis of rat sympathetic neurons at 10 μM, of which 100 μM shows the highest toxicity and kills over 80% of the neurons by 84 hours, involving the release of mitochondrial cytochrome-c and the activation of caspase-3, and the toxicity can be attenuated by p53 knockdown and delayed by bax deletion[2].

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In Vivo

Cytarabine (250 mg/kg) also causes placental growth retardation and increases placental trophoblastic cells apoptosis in the placental labyrinth zone of the pregnant Slc:Wistar rats, which increases from 3 hour after the treatment and peaks at 6 hour before returning to control levels at 48 hour, with remarkably enhanced p53 protein, p53 trancriptional target genes such as p21, cyclinG1 and fas and caspase-3 activity[3]. Cytarabine is highly effective against acute leukaemias, which causes the Cytarabine teristic G1/S blockage and synchronization, and increases the survival time for leukaemic Brown Norway rats in a weak dose-related fashion indicating that the use of higher dosages of Cytarabine does not contribute to its antileukaemic effectiveness in man[4].

References

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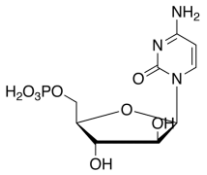
Related products

Cytarabine 5'-Monophosphate #E9970 ; MW :323.2 .



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