Data Sheet (Cat.No.T6603)

TargetMol®
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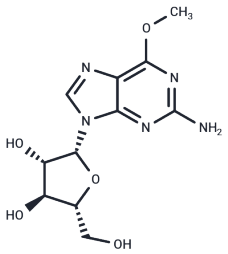
Nelarabine

Chemical Properties



CAS No. : 121032-29-9

Formula: C11H15N5O5

Molecular Weight: 297.27

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Nelarabine (GW 506U78) is a purine nucleoside analog and DNA synthesis inhibitor with IC50 from 0.067-2.15 μM in tumor cells.
Targets(IC50)	Apoptosis,Nucleoside Antimetabolite/Analog,DNA/RNA Synthesis
In vitro	The IC50 of Nelarabine is 25-fold and 113-fold higher than ARAC in T- and B-lineage, respectively. T-ALL cells are eightfold more sensitive to Nelarabine than B-lineage but there is considerable overlap. The efficacy of NEL in T-lineage and B-lineage cell lines is 25-fold and 113-fold less than ARAC, respectively. [1] Nelarabine acts by inhibiting DNA synthesis and inducing apoptosis in susceptible cells. [2]Nelarabine demonstrated significant antineoplastic activity with acceptable toxicity. [3]
In vivo	The Nelarabine plasma AUC is 2.82 mM minutes and the ara-G plasma AUC is 20 mM minutes. The terminal half-life of Nelarabine in plasma is 25 min, clearance is 42 mL/minutes/kg, and central volume of distribution is 1.1 L/kg. The terminal half-life of ara-G in plasma is 182 minutes and the central volume of distribution is 1.4 L/kg. In CSF the terminal half-life of Nelarabine is 77 minutes and of ara-G is 232 minutes. The AUCcsf:AUCplasma is 29 % for Nelarabine and 23 % for ara-G. Nelarabine and ara-G do not accumulate with daily infusions because of their relatively short half-lives. [4]
Cell Research	HSB2, ALL-SIL, JURKAT and PER-255 cell lines are tested for drug resistance using the MTT assay. Nelarabine are incubated over 4 days, with concentration tested in triplicate. The IC50 (drug concentration that inhibits cell growth by 50%) is used as the measure of drug resistance. Data represent the average of 2-6 experiments performed on separate occasions. In cases where 50% cytotoxicity is not achieved by even the highest dose in a particular experiment, the IC50 is recorded as double the highest concentration tested.(Only for Reference)

Solubility Information

Solubility	H2O: 3 mg/mL (10 mM)),Heating is recommended. DMSO: 29.7 mg/mL (100 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3639 mL	16.8197 mL	33.6395 mL
5 mM	0.6728 mL	3.3639 mL	6.7279 mL
10 mM	0.3364 mL	1.682 mL	3.3639 mL
50 mM	0.0673 mL	0.3364 mL	0.6728 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Beesley AH, et al. Br J Haematol. 2007, 137(2), 109-116.
Kline J, et al. Expert Opin Pharmacother. 2006, 7(13), 1791-1799.