Nimustine hydrochloride

Cat. No.: HY-13703A

CAS No.: 55661-38-6

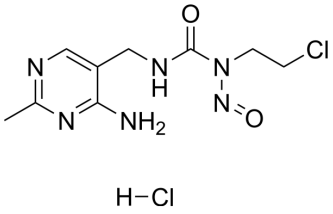
Molecular Formula: $C_9H_{14}Cl_2N_6O_2$

Molecular Weight: 309.15

Target: DNA/RNA Synthesis; Apoptosis; DNA Alkylator/Crosslinker

Pathway: Cell Cycle/DNA Damage; Apoptosis

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 62.5 mg/mL (202.17 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2347 mL	16.1734 mL	32.3468 mL
	5 mM	0.6469 mL	3.2347 mL	6.4694 mL
	10 mM	0.3235 mL	1.6173 mL	3.2347 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (6.73 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.73 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Nimustine hydrochloride (ACNU) is a DNA cross-linking and DNA alkylating agent, which induces DNA replication blocking lesions and DNA double-strand breaks and inhibits DNA synthesis, commonly used in chemotherapy for glioblastomas[1][2][3].

REFERENCES

[1]. Tomicic MT, et al. Apoptosis induced by temozolomide and nimustine in glioblastoma cells is supported by JNK/c-Jun-mediated induction of the BH3-only protein

BIM. Oncotarget. 2015 Oct 20;6(32):33755-68.

[2]. Kondo N, et al. FANCD1/BRCA2 plays predominant role in the repair of DNA damage induced by ACNU or TMZ. PLoS One. 2011 May 9;6(5):e19659.

[3]. Mineura K, et al. DNA lability induced by nimustine and ramustine in rat glioma cells. J Neurol Neurosurg Psychiatry. 1988 Nov;51(11):1391-4.

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