Procarbazine Hydrochloride

Cat. No.: HY-13733

CAS No.: 366-70-1

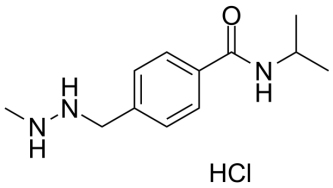
Molecular Formula: $C_{12}H_{20}ClN_3O$

Molecular Weight: 257.76

Target: DNA Alkylator/Crosslinker

Pathway: Cell Cycle/DNA Damage

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



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (387.96 mM; Need ultrasonic)
DMSO : 16.67 mg/mL (64.67 mM; Need ultrasonic)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	3.8796 mL	19.3979 mL	38.7958 mL
5 mM	0.7759 mL	3.8796 mL	7.7592 mL
10 mM	0.3880 mL	1.9398 mL	3.8796 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (387.96 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (8.07 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.67 mg/mL (6.48 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (6.48 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Procarbazine Hydrochloride is an orally active alkylating agent, with anticancer activity. Procarbazine Hydrochloride can be used in Hodgkin's disease research[1][2].

In Vitro

Procarbazine Hydrochloride (5 and 20 nM; 1 h) treatment shows cell survival at various concentrarions[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	L1210 cells
Concentration:	5 and 20 nM
Incubation Time:	1 hour
Result:	Showed 99.3% and 99.9% survival of cells at 5 mM and 20 mM, respectively.

In Vivo

Procarbazine (Intraperitoneal injection; 50 and 150 mg/kg; once daily; 5 d) induces micronuclei in hematopoietic cells, but not increases the lacZ mutant frequency (MF) in bone marrow[2].

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

Animal Model:	Male muta mouse (7–8 weeks old)[2]
Dosage:	50 and 150 mg/kg
Administration:	Intraperitoneal injection; 50 and 150 mg/kg; once daily; 5 days
Result:	Increased the MN frequency appreciably, and observed micronucleus induction in the peripheral blood at 50 mg/kg.

CUSTOMER VALIDATION

- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.
- Mol Imaging Biol. 2020 Feb;22(1):124-133.

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REFERENCES

[1]. J M Erikson, et al. Cytotoxicity and DNA damage caused by the azoxy metabolites of procarbazine in L1210 tumor cells. Cancer Res. 1989 Jan 1;49(1):127-33.

[2]. T Suzuki, et al. Procarbazine genotoxicity in the MutaMouse; strong clastogenicity and organ-specific induction of lacZ mutations. Mutat Res. 1999 Aug 18;444(2):269-81.

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