PR-104

Cat. No.: HY-16405

CAS No.: 851627-62-8

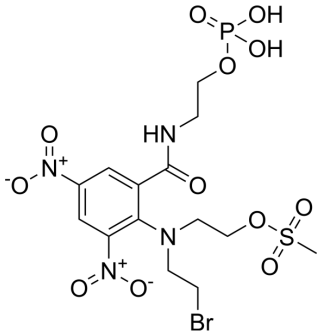
Molecular Formula: $C_{14}H_{20}BrN_4O_{12}PS$

Molecular Weight: 579.27

Target: DNA Alkylator/Crosslinker

Pathway: Cell Cycle/DNA Damage

Storage: -80°C, protect from light, stored under nitrogen



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (172.63 mM; Need ultrasonic)

H_2O : 31.25 mg/mL (53.95 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7263 mL	8.6316 mL	17.2631 mL
5 mM	0.3453 mL	1.7263 mL	3.4526 mL
10 mM	0.1726 mL	0.8632 mL	1.7263 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: ≥ 5 mg/mL (8.63 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 5 mg/mL (8.63 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

PR-104 is a selective hypoxia-activated DNA cross-linking agent and can be used for the research of multiple tumor xenograft models. PR-104, as a nitrogen mustard pre-proagent, is converted efficiently to the more lipophilic dinitrobenzamide mustards alcohol PR-104A[1].

In Vitro

PR-104 (80 μM; 1 hour; SiHa cells) shows greater suppression of radiation-induced DNA single-strand breaks under hypoxic than aerobic conditions. PR-104 (100 μM; 1 hour; SiHa cells) results in phosphorylation of Ser139 of histone H2AX (gH2AX). PR-104 (0.266 mmol/kg; 18 h; SiHa cells) shows activity against hypoxic cells after irradiation. PR-104 varies in potency between cell lines, with the lowest IC_{50} (0.51 μmol/L) in H460 cells and highest (7.3 μmol/L) in PC3 prostate cells[1].

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

In Vivo

PR-104 (0.56 mmol/kg; i.v. or i.p.; 0~2 hours) makes the plasma area under the curve. PR-104 (0.23 mmol/kg; i.p.; 100 days) shows antitumor activity[1].

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

Animal Model:	CD-1nu/nu mice
Dosage:	0.56 mmol/kg (Pharmacokinetics Analysis)
Administration:	I.v. or i.p.
Result:	The plasma area under the curve.

Animal Model:	CD1-Foxn1nu mice
Dosage:	0.23 mmol/kg
Administration:	I.p.
Result:	Showed antitumor activity.

REFERENCES

[1]. Patterson AV, et al. Mechanism of action and preclinical antitumor activity of the novel hypoxia-activated DNA cross-linking agent PR-104. Clin Cancer Res. 2007;13(13):3922-3932.

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