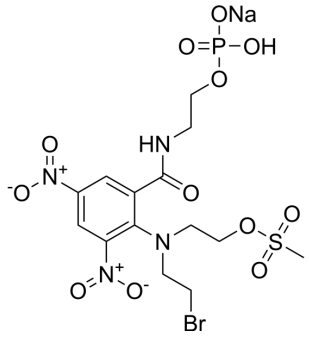
PR-104 sodium

Cat. No.:	HY-16406
CAS No.:	851627-80-0
Molecular Formula:	$C_{14}H_{19}BrN_4NaO_{12}PS$
Molecular Weight:	601.25
Target:	DNA Alkylator/Crosslinker
Pathway:	Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

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

In Vitro

PR-104 (sodium) (80 μM; 1 hour; SiHa cells) shows greater suppression of radiation-induced DNA single-strand breaks under hypoxic than aerobic conditions. PR-104 (sodium) (100 μM; 1 hour; SiHa cells) results in phosphorylation of Ser139 of histone H2AX (gH2AX). PR-104 (sodium) (0.266 mmol/kg; 18 h; SiHa cells) shows activity against hypoxic cells after irradiation. PR-104 (sodium) 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 (sodium) (0.56 mmol/kg; i.v. or i.p.; 0~2 hours) makes the plasma area under the curve. PR-104 (sodium) (0.23 mmol/kg; i.p.; 100 days) shows antitumor activity[1].

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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.

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