Nimustine

Cat. No.: HY-13703

CAS No.: 42471-28-3

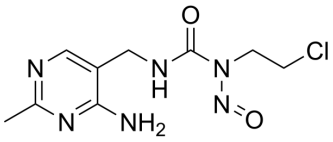
Molecular Formula: $C_9H_{13}ClN_6O_2$

Molecular Weight: 272.69

Target: Apoptosis

Pathway: Apoptosis

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Nimustine is a nitrosourea alkylating agent. Nimustine induces cell apoptosis, and activates DNA damage response and MAPK signaling. Nimustine shows anti-cancer effects, it can be used for the research of cancer[1][2].

In Vitro

Nimustine (50 μM; 72-120 h) causes cell death by inducing cell apoptosis[1].
Nimustine (50 μM; 24-96 h) activates the DNA damage response pathway[1].
Nimustine (50 μM; 24-120 h) activates MAPK signaling in glioma cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

Cell Line:	LN-229 cell line
Concentration:	50 μM
Incubation Time:	72-120 hours
Result:	Time-dependently induced apoptosis.

Western Blot Analysis[1]

Cell Line:	LN-229 and glioma cell lines
Concentration:	50 μM
Incubation Time:	24-120 hours
Result:	Induced cleavage of caspase-8 and -9 and the effector caspase-3. Increased phosphorylation of ERK kinase and H2AX. Decreased phosphorylation of JNK

In Vivo

Nimustine (15 four times a week and 30 mg/kg twice with an interval of 2 weeks; i.v.) effectively inhibits tumor growth and the higher dose is more effective[2].
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Animal Model:	Female C3H/HeN mice with solid FM3A tumors[2]

Dosage:	15 and 30 mg/kg
Administration:	Intravenous injection; 15 (4 times a week) and 30 mg/kg (twice with an interval of 2 weeks)
Result:	The intermittent large-dose injections resulted in better inhibition of tumor growth than did the fractionated small-dose injections.

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]. Shimizu F, et al. Effects of combined treatment with nimustine hydrochloride and radiation on solid FM3A tumor in mice. Jpn J Cancer Res. 1987 Jul;78(7):756-62.

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