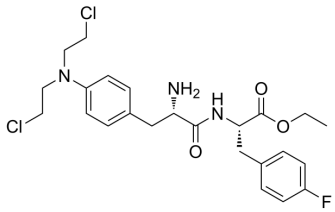
Melflufen

Cat. No.:	HY-105019
CAS No.:	380449-51-4
Molecular Formula:	$C_{24}H_{30}Cl_2FN_3O_3$
Molecular Weight:	498.42
Target:	DNA Alkylator/Crosslinker; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Melflufen (Melphalan flufenamide), a dipeptide proagent of Melphalan, is an alkylating agent. Melflufen shows antitumor activity against multiple myeloma (MM) cells and inhibits angiogenesis. Melflufen induces irreversible DNA damage and cytotoxicity in MM cells[1][2][3].

In Vitro

Melflufen (Melphalan flufenamide) (0.5-10 μM; 24 hours) decreases viability of MM.1S, INA-6, RPMI-8226, MM.1R, Dox-40, ARP-1, and ANBL-6 cells in a concentration-dependent manner[1].
Melflufen induces apoptosis in MM.1S cells[1].
Melphalan also is a potent activator of exosome secretion[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay

Cell Line:	Multiple myeloma cells: MM.1S, INA-6, RPMI-8226, MM.1R, Dox-40, ARP-1, ANBL-6 cells
Concentration:	0.5, 1, 3, 5, 10 μM
Incubation Time:	24 hours
Result:	A significant concentration-dependent decrease in viability of all cell lines was observed.

In Vivo

Melflufen (Melphalan flufenamide) (3 mg/kg; i.v.; twice-weekly for two weeks) shows anti-MM activity in xenograft mouse model[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	CB-17 SCID mice (human plasmacytoma MM.1S xenograft mouse model)[1]
Dosage:	3 mg/kg
Administration:	I.v.; twice-weekly for two weeks
Result:	Significantly inhibited MM tumor growth and prolonged survival of mice.

CUSTOMER VALIDATION

- Cell Death Dis. 2022 Feb 10;13(2):136.

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REFERENCES

[1]. Chauhan D, et al. In vitro and in vivo antitumor activity of a novel alkylating agent, melphalan-flufenamide, against multiple myeloma cells. Clin Cancer Res. 2013;19(11):3019-3031.

[2]. Ray A, et al. A novel alkylating agent Melflufen induces irreversible DNA damage and cytotoxicity in multiple myeloma cells. Br J Haematol. 2016;174(3):397-409.

[3]. McAndrews KM, et, al. Mechanisms associated with biogenesis of exosomes in cancer. Mol Cancer. 2019 Mar 30;18(1):52.

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