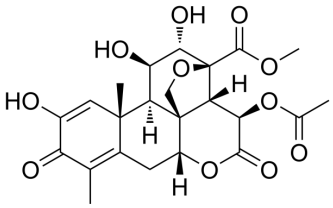
Dehydrobruceine B

Cat. No.:	HY-N10313
CAS No.:	53730-90-8
Molecular Formula:	$C_{23}H_{26}O_{11}$
Molecular Weight:	478.45
Target:	Bcl-2 Family; Keap1-Nrf2; Apoptosis
Pathway:	Apoptosis; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Dehydrobruceine B, a quassinoid, can be isolated from Brucea javanica. Dehydrobruceine B shows a synergistic effect with Cisplatin (HY-17394) to induce apoptosis via mitochondrial method. Dehydrobruceine B increases apoptosis-inducing factor (AIF) and Bax expression and suppresses Keap1-Nrf2[1].

IC_{50} & Target	Bax	Bcl-xL	Bcl-2

In Vitro

Dehydrobruceine B (1 μM; 48 h) and Cisplatin (3-18 μM; 48 h) combination synergizes the cytotoxic and apoptotic effects in A549 cells[1].

Dehydrobruceine B (1 μM; 24 h) induces excessive generation of intracellular ROS in Cisplatin (3 μM, 6 μM; 24 h)-treated A549 cells[1].

Dehydrobruceine B (1 μM; 24 h) increases depolarization of mitochondrial membrane potential (MMP) and translocation of cytochrome c in Cisplatin (3 μM, 6 μM; 24 h)-treated A549 cells[1].

Dehydrobruceine B (1 μM; 24 h) enhances the change of anti-apoptotic and pro-apoptotic protein levels in A549 cells[1].

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

Western Blot Analysis[1]

Cell Line:	A549 cells
Concentration:	1 μM; with or without Cisplatin
Incubation Time:	48 hours
Result:	Upregulated the protein level of Bax, while downregulated the levels of Bcl-2 and Bcl-xL. Enhanced caspase activation and PARP cleavage.

Apoptosis Analysis[1]

Cell Line:	A549 cells
Concentration:	1 μM; with or without Cisplatin
Incubation Time:	48 hours
Result:	Inhibited cell viability with 9 μM and 18 μM Cisplatin, respectively. Induced cell apoptosis with 3 μM and 6 μM Cisplatin, respectively.

Immunofluorescence[1]

Cell Line:	A549 cells
Concentration:	1 μM; with or without 3 μM and 6 μM Cisplatin, respectively
Incubation Time:	24 hours
Result:	Resulted apoptosis-inducing factor (AIF) translocated from cytosol into nucleus dramatically in the co-treatment condition.

REFERENCES

[1]. Huang Z, et al. Dehydrobruceine B enhances the cisplatin-induced cytotoxicity through regulation of the mitochondrial apoptotic pathway in lung cancer A549 cells. Biomed Pharmacother. 2017 May;89:623-631.

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