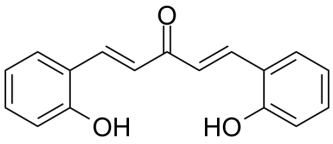
2-HBA

Cat. No.:	HY-103667
CAS No.:	131359-24-5
Molecular Formula:	$C_{17}H_{14}O_3$
Molecular Weight:	266.29
Target:	Caspase
Pathway:	Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (375.53 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.7553 mL	18.7765 mL	37.5530 mL
5 mM	0.7511 mL	3.7553 mL	7.5106 mL
10 mM	0.3755 mL	1.8777 mL	3.7553 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: ≥ 2.5 mg/mL (9.39 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.39 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

2-HBA is a potent inducer of NAD(P)H:quinone acceptor oxidoreductase 1 (NQO1) which can also activate caspase-3 and caspase-10.

IC_{50} & Target

Caspase-3	Caspase-10

In Vitro

When L1210 cells are exposed to 0.6 μM 2-HBA (bis(2-hydroxy-benzylidene)acetone), the specific activities of NQO1 and glutathione reductase increase by 6- and 1.5-fold, respectively. The total cellular glutathione content is also coordinately induced by 2.4-fold. In a more detailed study it is found that NQO1 is induced by 2-HBA in a concentration-dependent manner. Treatments with 2-HBA cause cell cycle arrest and apoptosis in both L1210 wild type cells and their Y8 drug-resistant counterparts in a concentration-dependent manner. 2-HBA can also activate caspase-3 and caspase-10[1].

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

PROTOCOL

Kinase Assay [1]	Cells (20,000 per well) are grown for 24 h in 96-well plates, then exposed to 2-HBA (bis(2-hydroxybenzylidene)acetone) for either 24 h (for glutathione determination) or 48 h (for determination of enzyme activities). At the end of the exposure period, cells are collected by centrifugation (1500×g for 15 min at 4°C), washed with DPBS, and finally lysed in 0.08% digitonin. An aliquot (25 µL) is used for protein analysis. Activity of NQO1 is determined by the Prochaska test[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Cell Assay [1]	After exposure to 2-HBA (bis(2-hydroxybenzylidene)acetone) for 24 h, duplicate aliquots of cells (1×10^6) are collected by centrifugation and washed with cold DPBS. Apoptosis is determined using the Annexin-V-FLUOS assay with simultaneous determination of the necrotic fraction by the uptake of propidium iodide[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Biochem Biophys Res Commun. 2019 Jun 11;513(4):883-890.
- Biomed Res Int. 2020 Nov 4;2020:1928410.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Dinkova-Kostova AT, et al. Bis(2-hydroxybenzylidene)acetone, a potent inducer of the phase 2 response, causes apoptosis in mouse leukemia cells through a p53-independent, caspase-mediated pathway. Cancer Lett. 2007 Jan 8;245(1-2):341-9.

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