CASIN

Cat. No.: HY-12874

CAS No.: 425399-05-9

Molecular Formula: $C_{20}H_{22}N_2O$

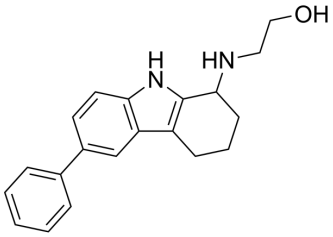
Molecular Weight: 306.40

Target: Ras; Apoptosis

Pathway: GPCR/G Protein; MAPK/ERK 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 : ≥ 31 mg/mL (101.17 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2637 mL	16.3185 mL	32.6371 mL
	5 mM	0.6527 mL	3.2637 mL	6.5274 mL
	10 mM	0.3264 mL	1.6319 mL	3.2637 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: ≥ 2.08 mg/mL (6.79 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.79 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.79 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

CASIN is a selective GTPase Cdc42 inhibitor with an IC_{50} of 2 uM. CASIN can be used for the research of cancer[1][2].

IC_{50} & Target

IC50: 2 μM (GTPase Cdc42)[1]

In Vitro

CASIN (0-10 μM; 3 d) inhibits the growth of AMO-1, ARH-77, IM-9 , JJN-3, L-363, MOLP-8 and RPMI-8226/S cells[1].
CASIN (0-10 μM; 16 h) inhibits melphalan induced FANCD2 mono-ubiquitination in LR5 cells but shows no effect to S cells[1].

CASIN (5 μM; 2 d) increases cell apoptosis of bortezomib-resistant MM patient cells[1].

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

Cell Viability Assay[3]

Cell Line:	AMO-1, ARH-77, IM-9 , JJN-3, L-363, MOLP-8 and RPMI-8226/S cells
Concentration:	0-10 μM
Incubation Time:	3 days
Result:	Inhibited MM cell lines including AMO-1, ARH-77, IM-9 , JJN-3, L-363, MOLP-8 and RPMI-8226/S cells with GI_{50}s vof 3.23, 4.31, 4.87, 2.56, 4.64, 4.67 and 3.97 μM, respectively.

Western Blot Analysis[3]

Cell Line:	MM (S) and melphalan-resistant (LR5) MM cells
Concentration:	5 μM
Incubation Time:	16 hours
Result:	Abolished melphalan induced FANCD2 mono-ubiquitination and DNA damage in LR5, sensitized LR5 to melphalan-induced cell death by blocking FANCD2-mediated DNA damage repair.

Apoptosis Analysis[3]

Cell Line:	Bortezomib-resistant MM patients cells
Concentration:	5 μM
Incubation Time:	2 days
Result:	2-fold increased cell apoptosis in the cell derived from bortezomib-resistant MM patients.

In Vivo

CASIN (20 mg/kg; i.p. 2 times a day) prolongs lifetime of mice with busulfan injection[1].

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

Animal Model:	NSG mice with busulfan injection[3]
Dosage:	20 mg/kg
Administration:	Intraperitoneal injection; 20 mg/kg 2 times a day
Result:	Significantly prolonged the lifespan of xenografts mice better than bortezomib, and showed a leading position when combined with bortezomib.

CUSTOMER VALIDATION

- Nat Commun. 2022 Nov 11;13(1):6840.
- Clin Transl Med. 2022 Jun;12(6):e850.
- Clin Immunol. 2023 Sep 21;109777.
- Ecotoxicol Environ Saf. 2022 Jan 17;231:113208.

- J Mol Med (Berl). 2023 Oct 7.

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REFERENCES

[1]. Nguyen P, et al. Rational Targeting of Cdc42 Overcomes Drug Resistance of Multiple Myeloma. Front Oncol. 2019 Oct 1;9:958. doi: 10.3389/fonc.2019.00958.

[2]. Florian MC et al. Cdc42 activity regulates hematopoietic stem cell aging and rejuvenation. Cell Stem Cell, 2012 May 4, 10(5):520-30.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite F, Monmouth Junction, NJ 08852, USA