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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Brevilin A

Cat. No.: HY-N2959

CAS No.: 16503-32-5

Molecular Formula: $C_{20}H_{26}O_5$

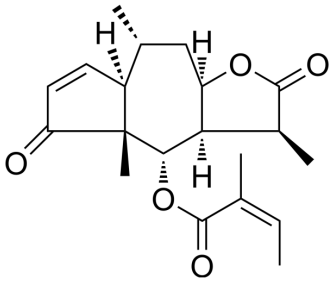
Molecular Weight: 346.42

Target: JAK; STAT; Apoptosis; Autophagy

Pathway: Epigenetics; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Stem Cell/Wnt; Apoptosis; Autophagy

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 (288.67 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8867 mL	14.4333 mL	28.8667 mL
5 mM	0.5773 mL	2.8867 mL	5.7733 mL
10 mM	0.2887 mL	1.4433 mL	2.8867 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 10 mg/mL (28.87 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 6.25 mg/mL (18.04 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 6.25 mg/mL (18.04 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Brevilin A is an orally active STAT3/JAK inhibitor (STAT3 IC_{50}=?10.6 μM). Brevilin A shows anti-tumor activity, anti-proliferative activity to cancer cells, and can induce apoptosis and autophagy[1][2].

IC_{50} & Target

STAT3
10.6 μM (IC_{50})

In Vitro

Brevilin A (1-20 μM; 24 h) inhibits STAT3 signaling in a dose dependent manner[1].
Brevilin A (0-50 μM; 24-72 h) inhibits the proliferation of NPC cells[2].
Brevilin A (10 μM; 24 and 48 h) induces DU145 and MDA-MB-468 apoptosis after 24 h treatment[1].
Brevilin A (12.5 and 25 μM; 24 h) blocks STAT3 tyrosine 705 phosphorylation in A549R cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	A549R cells
Concentration:	1-20 μM
Incubation Time:	24 hours
Result:	Exhibited STAT3 signaling inhibition in a dose dependent manner with IC_{50} value of 10.6 μM.

Cell Proliferation Assay[2]

Cell Line:	CNE-2 cells
Concentration:	0-50 μM
Incubation Time:	24, 48, and 72 hours
Result:	Showed IC_{50} values in CNE-2 cells with treatment times of 24, 48, and 72 h of 7.93, 2.60, and 22.26 μM, respectively.

Apoptosis Analysis[1]

Cell Line:	DU145 and MDA-MB-468 cells
Concentration:	10 μM
Incubation Time:	24 and 48 hours
Result:	Decreased c-Myc and CyclinD1 after 24 h and 48 h treatment, increased cleaved PARP after 24 h treatment.

Western Blot Analysis[1]

Cell Line:	A549R cells
Concentration:	12.5 and 25 μM
Incubation Time:	24 hours
Result:	Inhibits STAT3 phosphorylation in A549R cells.

In Vivo

Brevilin A (oral gavage; 10 and 20 mg/kg; once daily; 16 d) inhibits CNE-2 xenograft tumor growth, and inhibits PI3K/AKT and STAT3 signaling in vivo[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male BALB/c nude mice injected with CNE-2 cells[2]
Dosage:	10 and 20 mg/kg
Administration:	Oral gavage; 10 and 20 mg/kg; once daily; 16 days

Result:	Decreased average tumor volumes and weights treated with 20 mg/kg by 36.3% and 46.0%, respectively, compared to vehicle control. Inhibited the protein expression of p-AKT and p-STAT3 at both low and high doses.

CUSTOMER VALIDATION

- Cell Cycle. 2024 Jan 25:1-13.
- Mol Biotechnol. 2024 May 14.
- Ann Med Surg (Lond). 2023 Oct 18.
- Research Square Preprint. 2024 Mar 6.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Chen X, et al. Brevilin A, a novel natural product, inhibits janus kinase activity and blocks STAT3 signaling in cancer cells. PLoS One. 2013 May 21;8(5):e63697.

[2]. You P, et al. Brevilin A induces apoptosis and autophagy of colon adenocarcinoma cell CT26 via mitochondrial pathway and PI3K/AKT/mTOR inactivation. Biomed Pharmacother. 2018 Feb;98:619-625.

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