BCI hydrochloride

Cat. No.: HY-115502A

CAS No.: 95130-23-7

Molecular Formula: $C_{22}H_{24}ClNO$

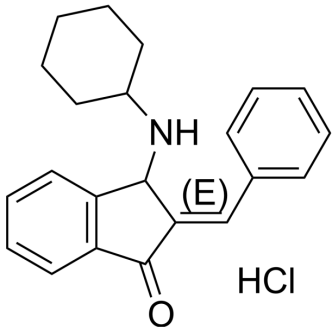
Molecular Weight: 353.89

Target: Phosphatase

Pathway: Metabolic Enzyme/Protease

Storage: -20°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 15.62 mg/mL (44.14 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	2.8257 mL	14.1287 mL	28.2574 mL
	5 mM	0.5651 mL	2.8257 mL	5.6515 mL
	10 mM	0.2826 mL	1.4129 mL	2.8257 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: ≥ 1.56 mg/mL (4.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.56 mg/mL (4.41 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.56 mg/mL (4.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

BCI ((E)-BCI) hydrochloride is a DUSP6 (dual specificity phosphatase 6) inhibitor. BCI hydrochloride shows anti-inflammatory activity and decreases reactive oxygen species (ROS) production. BCI hydrochloride can be used in inflammatory disease research[1][2].

IC_{50} & Target

DUSP6[1]

In Vitro

BCI (100 ng/mL; 24 h) downregulats the expression of DUSP6 in RAW264.7 macrophage cells[2].
BCI (0-1 nM; 24 h) inhibits the expression of IL-1β and IL-6 in lipopolysaccharide- (LPS-) activated macrophages[2].
BCI (0-4 nM; 24 h) decreases ROS production and activates the Nrf2 Pathway in LPS-activated macrophages[2].

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

Western Blot Analysis[2]

Cell Line:	RAW264.7 macrophage cells
Concentration:	100 ng/mL
Incubation Time:	24 hours
Result:	Showed DUSP6 protein downregulation.

RT-PCR[2]

Cell Line:	RAW264.7 macrophage cells
Concentration:	0-1 nM
Incubation Time:	24 hours
Result:	Inhibited the expression of IL-1β and IL-6 mRNA in LPS-activated macrophages.

CUSTOMER VALIDATION

- Phytother Res. 2023 Mar 3.
- Neural Regen Res. 2023.
- Cells. 2022 Feb 19;11(4):732.
- Development. 2023 Feb 13;dev.201090.
- Dis Model Mech. 2023 May 1;16(5):dmm049662.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Zhang F, et al. DUSP6 Inhibitor (E/Z)-BCI Hydrochloride Attenuates Lipopolysaccharide-Induced Inflammatory Responses in Murine Macrophage Cells via Activating the Nrf2 Signaling Axis and Inhibiting the NF-κB Pathway. Inflammation. 2019 Apr;42(2):672-681.

[2]. Korotchenko VN, et al. In vivo structure-activity relationship studies support allosteric targeting of a dual specificity phosphatase. Chembiochem. 2014 Jul 7;15(10):1436-45.

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