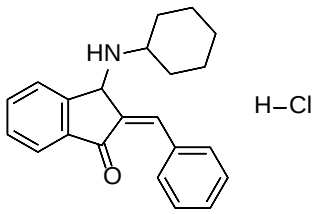
Product data sheet

MedKoo Cat#: 527814 Name: BCI hydrochloride CAS#: 95130-23-7 (HCl) Chemical Formula: $C_{22}H_{24}ClNO$ Exact Mass: 317.1780 Molecular Weight: 353.89	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
BCI hydrochloride is an allosteric inhibitor of Dusp6, acting within the phosphatase domain to prevent the catalytic stimulation of phosphatase activity induced by ERK2 substrate binding.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	2.0	5.65
DMSO	12.81	36.20
DMSO:PBS (pH 7.2) (1:1)	0.50	1.41

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.83 mL	14.13 mL	28.26 mL
5 mM	0.57 mL	2.83 mL	5.65 mL
10 mM	0.28 mL	1.41 mL	2.83 mL
50 mM	0.06 mL	0.28 mL	0.57 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Wu QN, Liao YF, Lu YX, Wang Y, Lu JH, Zeng ZL, Huang QT, Sheng H, Yun JP, Xie D, Ju HQ, Xu RH. Pharmacological inhibition of DUSP6 suppresses gastric cancer growth and metastasis and overcomes cisplatin resistance. Cancer Lett. 2018 Jan 1;412:243-255. doi: 10.1016/j.canlet.2017.10.007. Epub 2017 Oct 16. PMID: 29050982.
2. Zhang F, Tang B, Zhang Z, Xu D, Ma G. 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. doi: 10.1007/s10753-018-0924-2. PMID: 30506106.

In vivo study

1. Wu QN, Liao YF, Lu YX, Wang Y, Lu JH, Zeng ZL, Huang QT, Sheng H, Yun JP, Xie D, Ju HQ, Xu RH. Pharmacological inhibition of DUSP6 suppresses gastric cancer growth and metastasis and overcomes cisplatin resistance. Cancer Lett. 2018 Jan 1;412:243-255. doi: 10.1016/j.canlet.2017.10.007. Epub 2017 Oct 16. PMID: 29050982.

7. Bioactivity
Biological target: BCI hydrochloride is an inhibitor of dual specificity phosphatase (DUSP) with EC50s of 13.3 and 8.0 μM for DUSP6 and DUSP1, respectively.

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In vitro activity

BCI hydrochloride (BCI), a DUSP6 small molecule inhibitor, increased the activity of ERK but interestingly decreased the expression of ERK response genes in BGC823, SGC7901 and CDDP-resistant SGC7901/DDP cells. BCI also caused cell death through the DNA damage response (DDR) pathway. Moreover, BCI inhibited cell proliferation, migration and invasion in a receptor-independent manner and enhanced CDDP cytotoxicity at pharmacological concentrations in the gastric cancer (GC) cells.

Reference: Cancer Lett. 2018 Jan 1;412:243-255.
https://www.sciencedirect.com/science/article/pii/S0304383517306316?via%3Dihub

In vivo activity

In vivo experiments showed that BCI enhances the antitumor effects of CDDP (cisplatin) in cell-based xenografts and PDX models.

Reference: Cancer Lett. 2018 Jan 1;412:243-255.
https://www.sciencedirect.com/science/article/pii/S0304383517306316?via%3Dihub

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.