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**Product Data Sheet**


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Product Name: BTB06584

Cat. No.: GC16833

**Chemical Properties**

Cas. No. 219793-45-0

Chemical Name [5-(benzenesulfonyl)-2-nitrophenyl] 4-chlorobenzoate

SMILES C1=CC=C(C=C1)S(=O)(=O)C2=CC(=C(C=C2)[N+](=O)[O-])OC(=O)C3=CC=C(C=C3)ClFormula C<sub>19</sub>H<sub>12</sub>ClNO<sub>6</sub>S

M.Wt

417.82

Solubility ≥ 17.05mg/mL in DMSO

Storage

Store at -20° C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure **Background**

Ischaemia compromises mitochondrial respiration. Consequently, the mitochondrial F<sub>1</sub>F<sub>o</sub>-ATP synthase reverses and plays as a proton-pumping ATPase, so maintaining the mitochondrial membrane potential ( $\Delta\Psi_m$ ), while accelerating ATP depletion and cell death. BTB06584 is an IF1-dependent selective inhibitor of the mitochondrial F<sub>1</sub>F<sub>o</sub>-ATPase.

In vitro: BTB inhibited F<sub>1</sub>F<sub>o</sub>-ATPase activity with no effect on the mitochondrial membrane potential ( $\Delta\Psi_m$ ) or O<sub>2</sub> consumption. ATP consumption decreased via inhibition of respiration, and ischaemic cell death was reduced. BTB efficiency increased by IF1 overexpression and reduced by silencing this protein. In addition, BTB rescued defective haemoglobin synthesis in zebrafish pinotage (pnt) mutants in which expression of the Atpif1a gene is lost [1].

In vivo: The BTB-mediated protection was further tested in neurons. Primary cultured

**Caution: Product has not been fully validated for medical applications. For research use only.**

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cortical neurons of mice were exposed to OGD, treated or not with BTB, followed by RX. The resulting cell death was significantly reduced by BTB, as scored by PI staining, compared with cells left untreated during OGD [1].

Clinical trials: Currently no clinical data are available.

### Reference:

[1] Ivanes F, Faccenda D, Gatliff J, Ahmed AA, Cocco S, Cheng CH, Allan E, Russell C, Duchon MR, Campanella M. The compound BTB06584 is an IF1-dependent selective inhibitor of the mitochondrial F1 Fo-ATPase. *Br J Pharmacol.* 2014;171(18):4193-206.

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