Web: www.taiclone.com
Tel: +886-2-2735-9682
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GSK 3 Inhibitor IX

Catalog No: tcsc3360

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Specifications

CAS No:
667463-62-9

Formula:
$C_{16}H_{10}BrN_3O_2$

Pathway:
Stem Cell/Wnt;PI3K/Akt/mTOR;Cell Cycle/DNA Damage

Target:
GSK-3;GSK-3;CDK

Purity / Grade:
>98%

Solubility:
70.0 mg/mL (196.5 mM)
Water: Insoluble

Storage Instruction:
Powder -20°C for 3 years In solvent -80°C for 12 months

Alternative Names:
BIO; MLS 2052; GSK-3 Inhibitor IX; 6-Bromoindirubin-3-Oxime; 6BIO; GSK-3 IX

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Observed Molecular Weight:
356.17

Product Description

GSK 3 Inhibitor IX (6-Bromoindirubin-3\'-oxime; BIO) is a potent, selective, reversible and ATP-competitive inhibitor of **GSK-3α/β** and **CDK1-cyclinB** complex with **IC_{50}**s of 5 nM/320 nM/80 nM for (GSK-3α/β)/CDK1/CDK5, respectively.

IC50 & Target: IC50: 5 nM (GSK-3α/β), 320 nM (CDK1), 80 nM (CDK5)[1]

In Vitro: GSK 3 Inhibitor IX (BIO) is a specific inhibitor of glycogen synthase kinase-3 (GSK-3), with IC_{50} of 5 nM for GSK-3α/β, shows > 16-fold selectivity over CDK5. GSK 3 Inhibitor IX interacts within the ATP binding pocket of these kinases, reduces β-catenin phosphorylation on a GSK-3-specific site in cellular models, closely mimicks Wnt signaling in Xenopus embryos[1]. In human and mouse embryonic stem cells, GSK 3 Inhibitor IX (BIO) maintains the undifferentiated phenotype and sustains expression of the pluripotent state-specific transcription factors Oct-3/4, Rex-1 and Nanog. GSK 3 Inhibitor IX (BIO)-mediated Wnt activation is functionally reversible, as withdrawal of the compound leads to normal multidifferentiation programs in both human and mouse embryonic stem cells[2]. GSK 3 Inhibitor IX (BIO) promotes proliferation in mammalian cardiomyocytes[3]. GSK 3 Inhibitor IX (BIO) is also a pan-JAK inhibitor, with IC_{50} values of 0.03, 1.5, 8.0, 0.5 μM for TYK2, JAK1, JAK2 and JAK3, respectively. GSK 3 Inhibitor IX (BIO) selectively inhibits phosphorylation of STAT3 and induces apoptosis of human melanoma cells[4].

In Vivo: GSK 3 Inhibitor IX (BIO) (50 mg/kg, p.o.) suppresses melanoma tumor growth in a mouse xenograft model[4].