Small Molecules

BIO-Acetoxime

WNT pathway activator; Inhibits GSK3

Catalog # 73322

1 mg

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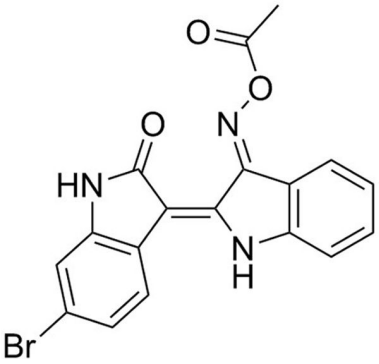
Product Description

BIO-Acetoxime is an analog of the GSK3 inhibitor BIO (Catalog #72032). It potently inhibits GSK3α and GSK3β (IC_{50} = 10 nM), and less potently inhibits cyclin-dependent kinases Cdk5/p25, Cdk2/A, and Cdk1/B (IC_{50} = 2.4, 4.3, and 63 µM, respectively; Meijer et al.; Polychronopoulos et al.). By inhibiting GSK3β, BIO-Acetoxime blocks β-catenin phosphorylation and degradation, thereby allowing it to activate transcription of WNT pathway-controlled genes (Meijer et al.).

Molecular Name:	BIO-Acetoxime
Alternative Names:	BIA; 6-Bromoindirubin-3'-acetoxime; GSK-3 inhibitor X
CAS Number:	740841-15-0
Chemical Formula:	$C_{18}H_{12}BrN_3O_3$
Molecular Weight:	398.2 g/mol
Purity:	≥ 95%
Chemical Name:	3-[3-[(acetyloxy)imino]-1,3-dihydro-2H-indol-2-ylidene]-6-bromo-1,3-dihydro-2H-indol-2-one
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 25 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 251 µL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

IMMUNOLOGY
· Inhibits CD8+ effector T cell differentiation (Zhou et al.).
· Suppresses viral gene expression and protects oral epithelial cells from herpes simplex virus (HSV) 1 infection (Hsu & Hung).

References

Hsu M-J & Hung S-L. (2013) Antiherpetic potential of 6-bromoindirubin-3'-acetoxime (BIO-acetoxime) in human oral epithelial cells. Arch Virol 158(6): 1287–96.
Meijer L et al. (2003) GSK-3-selective inhibitors derived from Tyrian purple indirubins. Chem Biol 10(12): 1255–66.
Polychronopoulos P et al. (2004) Structural basis for the synthesis of indirubins as potent and selective inhibitors of glycogen synthase kinase-3 and cyclin-dependent kinases. J Med Chem 47(4): 935–46.
Zhou X et al. (2010) Differentiation and persistence of memory CD8(+) T cells depend on T cell factor 1. Immunity 33(2): 229–40.

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This product is hazardous. Please refer to the Safety Data Sheet (SDS).