

KS15

Chemical Properties

CAS No. : 1033781-20-2

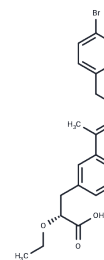
Formula: C₂₀H₂₂BrNO₄

Molecular Weight: 420.3

Store at low temperature

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	KS15 is a cryptochrome (CRY) inhibitor that promotes G1 cell cycle arrest, enhances drug sensitivity in MCF-7 cells, and exhibits antitumour activity against human breast cancer cells.
Targets(IC50)	Cell Cycle Arrest
In vitro	<p>KS15 (1-10 μM) significantly restored E-box-driven luciferase activity in a dose-dependent manner, indicating that KS15 effectively attenuates the inhibitory effect of CRY proteins on CLOCK: BMAL1 complex-induced transcription. By suppressing the interaction between CRYs and BMAL1, KS15 enhances the transcriptional activity of the core molecular clock feedback loop [1].</p> <p>KS15 directly binds to the C-terminal broussonetia papyrifera domain of cryptochromes (CRYs, including CRY1 and CRY2), thereby promoting E-box-mediated transcriptional processes [2].</p> <p>KS15 not only reduces cell proliferation rates but also enhances the chemosensitivity of MCF-7 breast cancer cells to doxorubicin and tamoxifen. KS15 exhibits anti-proliferative activity in specific breast cancer subtypes and improves the efficacy of anti-tumor drugs [2].</p>

Solubility Information

Solubility	<p>DMSO: 80 mg/mL (190.34 mM), Sonication is recommended.</p> <p>H₂O: < 1mg/mL (insoluble)</p> <p>(< 1 mg/ml refers to the product slightly soluble or insoluble)</p>
In vivo Formulation	<p>10% DMSO+90% Corn Oil: 3.3 mg/mL (7.85 mM), Sonication is recommended.</p> <p><i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i></p>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3793 mL	11.8963 mL	23.7925 mL
5 mM	0.4759 mL	2.3793 mL	4.7585 mL
10 mM	0.2379 mL	1.1896 mL	2.3793 mL
50 mM	0.0476 mL	0.2379 mL	0.4759 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Chun SK, et al. A synthetic cryptochrome inhibitor induces anti-proliferative effects and increases chemosensitivity in human breast cancer cells. *Biochem Biophys Res Commun.* 2015;467(2):441-446.

Jang J, et al. The cryptochrome inhibitor KS15 enhances E-box-mediated transcription by disrupting the feedback action of a circadian transcription-repressor complex. *Life Sci.* 2018;200:49-55.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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