

Product Data Sheet

Product Name: KS15
Cat. No.: GC62472

Chemical Properties

Cas. No. 1033781-20-2

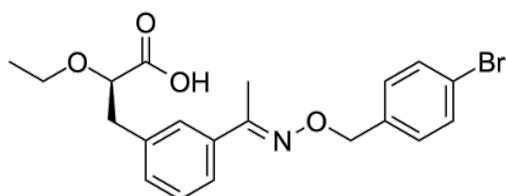
Formula $C_{20}H_{22}BrNO_4$ M.Wt 420.3

Solubility DMSO : 100 mg/mL (237.93 mM; Need ultrasonic)|Water : < 0.1 mg/mL (insoluble) 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

KS15 is an inhibitor of the interactions between cryptochromes (CRYs: CRY1 and CRY2) and the CLOCK:BMAL1 heterodimer. KS15 impairs the feedback actions of CRYs on E-box-dependent transcription ($EC_{50}=4.9 \mu M$) by CLOCK:BMAL1 heterodimer, an indispensable transcriptional regulator of the mammalian circadian clock. Anti-proliferative activity[1][2].

Applications of KS15 at different concentrations from 1 μM to 10 μM restored the E-box-driven

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

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luciferase activities in a dose-dependent manner, indicating that KS15 evidently impairs the suppressive actions of CRYs on CLOCK:BMAL1-induced transcription. KS15 inhibits the interactions between CRYs and BMAL1, resulting in the enhanced transcriptional activity in the core loop of the molecular circadian clock[1]. KS15 directly binds to the C-terminal region of cryptochromes (CRYs: CRY1 and CRY2) and enhances E-box-mediated transcription[2]. KS15 decreases the speed of cell growth and increased the chemosensitivity of MCF-7 cells to Doxorubicin and Tamoxifen. KS15 exerts an anti-proliferative effect and increases sensitivity to anti-tumor drugs in a specific type of breast cancer[2].

[1]. 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.

[2]. 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.

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