

Product Data Sheet

Product Name: HLY78
Cat. No.: GC16963

Chemical Properties

Cas. No. 854847-61-3

Chemical Name 4-ethyl-5,6-dihydro-5-methyl-[1,3]dioxolo[4,5-j]phenanthridine

SMILES CCC1=CC=CC2=C1N(C)CC3=CC4=C(OCO4)C=C32

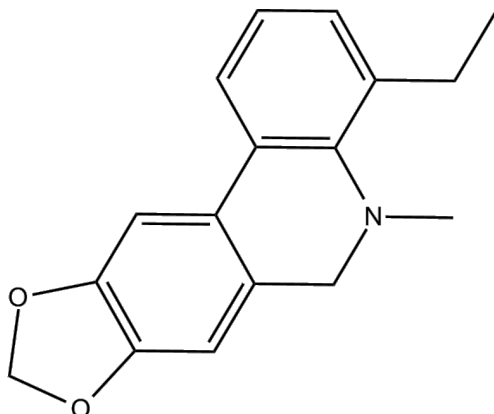
Formula $C_{17}H_{17}NO_2$ M.Wt 267.3

Solubility $\leq 2\text{mg/ml}$ in ethanol; 2mg/ml in DMSO; 12mg/ml in dimethyl formamide 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

HLY78 is a positive modulator of the Wnt/ β -catenin pathway.

The evolutionarily conserved Wnt/ β -catenin signaling pathway has important roles in embryonic development and human diseases. During embryogenesis, the Wnt signaling pathway regulates cell

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fate specification, differentiation, proliferation and survival. Inappropriate regulation of the Wnt signaling pathway is usually related to the progression of various human diseases including cancer, familial exudative vitreoretinopathy, Alzheimer's disease, and bone formation disorders.

In vitro: By screening a synthetic chemical library of lycorine derivatives, HLY78 was identified as an activator of the Wnt/ β -catenin signaling pathway, which acted in a Wnt ligand-dependent manner. HLY78 was found to be able to target the DIX domain of Axin and potentiate the Axin-LRP6 association, therefore leading to the promotion of LRP6 phosphorylation and Wnt signaling transduction. In addition, this study also identified the critical residues on Axin for HLY78 binding and suggested that HLY78 might weaken the autoinhibition of Axin1 [1].

In vivo: In-vivo study showed that HLY78 could synergistically act with Wnt in the embryonic development of zebrafish and increase the expression of the conserved hematopoietic stem cell (HSC) markers, *cmyb* and *runx1*, in zebrafish embryos [1].

Clinical trial: So far, no clinical study has been conducted.

Reference:

[1] Wang, S. ,Yin, J.,Chen, D., et al. Small-molecule modulation of Wnt signaling via modulating the Axin-LRP5/6 interaction. *Nature Chemical Biology* 9, 579-585 (2013).

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