

Product Data Sheet

Product Name: Iso-Olomoucine

Cat. No.: GC15215

Chemical Properties

Cas. No. 101622-50-8

Chemical Name 2-[[7-methyl-6-[(phenylmethyl)amino]-7H-purin-2-yl]amino]-ethanol

SMILES OCCNC1=NC(N=CN2C)=C2C(NCC3=CC=CC=C3)=N1

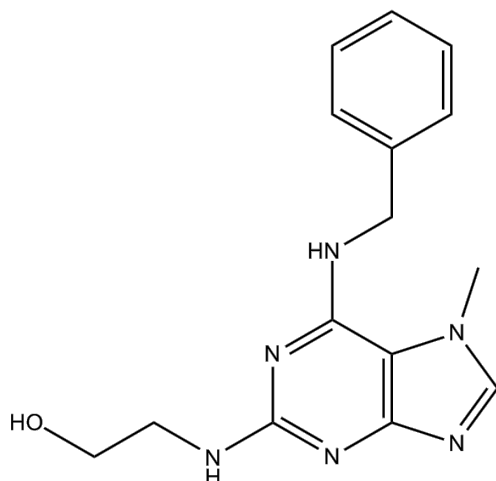
Formula $C_{15}H_{18}N_6O$ M.Wt 298.3

Solubility $\leq 0.3\text{mg/ml}$ in ethanol; 15mg/ml in DMSO; 15mg/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

IC₅₀: $\geq 1\text{ mM}$ for Cdk5

Iso-Olomoucine is an inactive stereoisomer of the Cdk5 inhibitor olomoucine.

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

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Cyclin-dependent kinases (CDKs) are reported to be key regulators of cell cycle progression whose function/dysfunction has been implicated in cancer, human neurodegenerative diseases, as well as the response of addictive drugs through alteration of postsynaptic dopamine receptor signaling.

In vitro: In a previous study, rat dorsal striatal synaptosomes were incubated with the Cdk5 inhibitors roscovitine, olomoucine, and GW8510 or the inactive congener iso-olomoucine, which led to a rapid, concentration-dependent inhibition of specific [3H]DA uptake. However, roscovitine was the only inhibitor that did not decrease [3H]2beta-carbomethoxy-3beta-(4-fluorophenyl)tropane binding to dSTR DATs. Roscovitine-induced inhibition of dSTR [3H]DA uptake was demonstrated by decreased maximal uptake velocity, without a change in cell-surface DAT levels. Moreover, roscovitine did not enhance [3H]DA release mediated by either DAT reverse-transport. Instead, roscovitine could enhance spontaneous [3H]DA outflow and inhibit DAT-mediated [3H]DA reaccumulation into dSTR slices. Additionally, in a Cdk5-independent manner, iso-olomoucine was able to rapidly inhibit dopamine transporter activity in rat dorsal striatal synaptosomes with a potency similar to that of olomoucine (IC₅₀ ~37 µM) [1]

In vivo: Up to now, there is no animal in vivo data reported.

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

Reference:

[1] Price, D. A., Sorkin, A. and Zahniser, N.R. Cyclin-dependent kinase 5 inhibitors: Inhibition of dopamine transporter activity. *Molecular Pharmacology* 76(4), 812-823 (2009).

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