

Product Data Sheet

Product Name: Olomoucine

Cat. No.: GC16520

Chemical Properties

Cas. No. 101622-51-9

Chemical Name 2-[[9-methyl-6-[(phenylmethyl)amino]-9H-purin-2-yl]amino]-ethanol

SMILES OCCNc1nc(NCc2ccccc2)c2ncn(C)c2n1

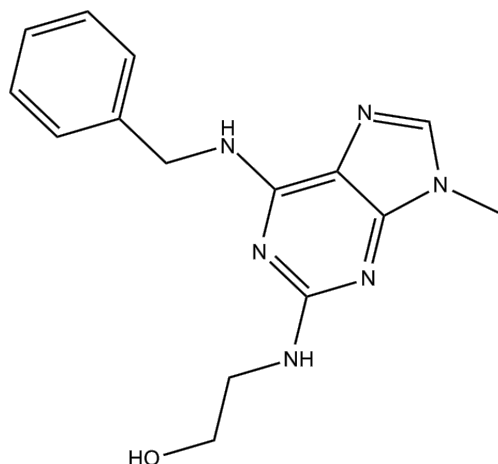
Formula $C_{15}H_{18}N_6O$ M.Wt 298.3

Solubility $\leq 10\text{mg/ml}$ in ethanol; 20mg/ml in DMSO; 30mg/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

Olomoucine is an ATP-competitive CDK inhibitor [1].

Cyclin-dependent kinases (CDKs) play important roles in the regulation of the cell division cycle and

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are therefore promising targets for cancer therapy [1].

Olomoucine is an ATP-competitive CDK inhibitor with IC₅₀ values of 7, 7, 7, 3 and 25 μ M against CDC2/cyclin B, Cdk2/cyclin A and Cdk2/cyclin E kinases, the brain CDK5/p35 kinase and the ERK1/p44 MAP kinase, respectively [1]. In metaphase-arrested *Xenopus* egg extracts, Olomoucine inhibited M-phase-promoting factor activity. Olomoucine provided an anti-mitotic reagent that might preferentially inhibit certain steps of the cell cycle [1]. In interleukin-2-stimulated T lymphocytes (CTLL-2 cells), Olomoucine inhibited DNA synthesis and caused G1 arrest [2].

In rats after spinal cord injury (SCI), olomoucine attenuated astroglial proliferation and glial scar formation, decreased lesion cavity and mitigated functional deficits. In rats following SCI, olomoucine significantly decreased the spinal cord edema formation, suppressed microglial proliferation and attenuated production of proinflammatory cytokines in the traumatic spinal cord. Olomoucine also attenuated neuronal cell death [3].

References:

- [1]. Vesel J, Havlicek L, Strnad M, et al. Inhibition of cyclin-dependent kinases by purine analogues. *Eur J Biochem.* 1994 Sep 1;224(2):771-86.
- [2]. Abraham RT, Acquarone M, Andersen A, et al. Cellular effects of olomoucine, an inhibitor of cyclin-dependent kinases. *Biol Cell.* 1995;83(2-3):105-20.
- [3]. Tian DS, Xie MJ, Yu ZY, et al. Cell cycle inhibition attenuates microglia induced inflammatory response and alleviates neuronal cell death after spinal cord injury in rats. *Brain Res.* 2007 Mar 2;1135(1):177-85.

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