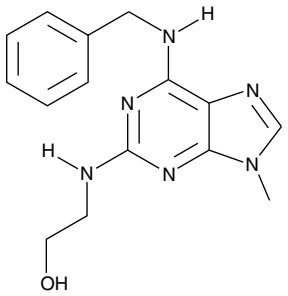
Product Information

Olomoucine

Item No. 10010240

CAS Registry No.:	101622-51-9
Formal Name:	2-[[9-methyl-6-[(phenylmethyl) amino]-9H-purin-2-yl]amino]-ethanol
MF:	$C_{15}H_{18}N_6O$
FW:	298.3
Purity:	≥98%
Stability:	≥2 years at -20°C
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max}: 231, 290 nm



Laboratory Procedures

For long term storage, we suggest that olomoucine be stored as supplied at -20°C. It should be stable for at least two years.

Olomoucine is supplied as a crystalline solid. A stock solution may be made by dissolving the olomoucine in an organic solvent purged with an inert gas. Olomoucine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of olomoucine in these solvents is approximately 10, 20, and 30 mg/ml, respectively.

Olomoucine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, olomoucine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Olomoucine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Cyclin-dependent kinases (CDKs) are key regulators of cell cycle progression and are therefore promising targets for cancer therapy. Olomoucine is a CDK inhibitor that acts by competing for the ATP binding site of the kinase. This purine derivative is an inhibitor for CDC2/cyclin B (IC_{50} = 7 µM), Cdk2/cyclin A (IC_{50} = 7 µM), Cdk2/cyclin E (IC_{50} = 7 µM), CDK/p35 kinase (IC_{50} = 3 µM), and ERK1/p44 MAP kinase (IC_{50} = 25 µM).[1] Olomoucine inhibits DNA synthesis in interleukin-2 stimulated T lymphocytes, triggers G_1 arrest, and is also used to synchronize cells in G_1.[1] This inhibitor can attenuate astroglial proliferation and glial scar formation, decrease lesion cavity and mitigate functional deficits after spinal cord injury (SCI) in rats.[2] Administration of olomoucine (3 mg/kg/day) to rats after SCI significantly suppressed microglial proliferation and proinflammatory cytokine expression, reduced tissue edema formation, and attenuated the number of apoptotic neurons.[2]

References

1. Abraham, R.T., Acquarone, M., Andersen, A., *et al.* Cellular effects of olomoucine, an inhibitor of cyclin-dependent kinases. *Biology of the Cell* **83(2)**, 105-120 (1995).
2. Tian, D.-S., Xie, M.-J., Yu, Z.-Y., *et al.* Cell cycle inhibition attenuates microglia induced inflammatory response and alleviates neuronal cell death after spinal cord injury in rats. *Brain Res.* **1135**, 177-185 (2007).

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