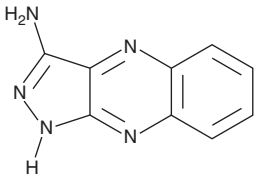
PRODUCT INFORMATION

Cdk1/5 Inhibitor

Item No. 18740

CAS Registry No.: 40254-90-8
Formal Name: 1H-pyrazolo[3,4-b]quinoxalin-3-amine
Synonyms: Cyclin-dependent kinase 1/5 Inhibitor, NSC 693868
MF: $C_9H_7N_5$
FW: 185.2
Purity: ≥95%
UV/Vis.: λ_{max}: 254, 334 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Cdk1/5 Inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the Cdk1/5 inhibitor in the solvent of choice. Cdk1/5 Inhibitor is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of Cdk1/5 inhibitor in DMSO is approximately 5 mg/ml and approximately 3 mg/ml in DMF.

Cdk1/5 Inhibitor is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Cdk1/5 inhibitor should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Cdk1/5 Inhibitor has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Cyclin-dependent kinases (Cdks) are key regulators of cell cycle progression and are therefore promising targets for cancer therapy.[1] Cdk1/5 Inhibitor is a pyrazolo [3,4-b] quioxaline that inhibits Cdk1/cyclin B and Cdk5/p25 (IC_{50}s = 600 and 400 nM, respectively).[2] It less potently inhibits GSK3β (IC_{50} = 1 µM) and does not block Cdc25 activity.[2] This compound is used to help define the roles of Cdk1 and Cdk5 in various signaling pathways.[3-5]

References

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2. Ortega, M.A., Montoya, M.E., Zarranz, B., *et al.* Pyrazolo[3,4-b]quinoxalines. A new class of cyclin-dependent kinases inhibitors. *Bioorg. Med. Chem.* **10(7)**, 2177-2184 (2002).
3. Chen, S., Xu, Y., Yuan, X., *et al.* Androgen receptor phosphorylation and stabilization in prostate cancer by cyclin-dependent kinase 1. *Proc. Natl. Acad. Sci. USA* **103(43)**, 15969-15974 (2006).
4. Nguyen, T.K. and Grant, S. Dinaciclib (SCH727965) inhibits the unfolded protein response through a CDK1- and 5-dependent mechanism. *Mol. Cancer Ther.* **13(3)**, 662-674 (2014).
5. Topanurak, S., Ferraris, J.D., Li, J., *et al.* High NaCl- and urea-induced posttranslational modifications that increase glycerophosphocholine by inhibiting GDPD5 phosphodiesterase. *Proc. Natl. Acad. Sci. USA* **110(18)**, 7482-7487 (2013).

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