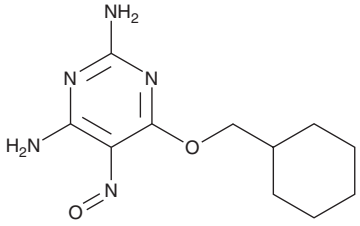
PRODUCT INFORMATION

NU 6027

Item No. 16177

CAS Registry No.:	220036-08-8
Formal Name:	6-(cyclohexylmethoxy)-5-nitroso-2,4-pyrimidinediamine
MF:	$C_{11}H_{17}N_5O_2$
FW:	251.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 236, 334 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

NU 6027 is supplied as a crystalline solid. A stock solution may be made by dissolving the NU 6027 in the solvent of choice, which should be purged with an inert gas. NU 6027 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of NU 6027 in these solvents is approximately 1, 10, and 5 mg/ml, respectively.

NU 6027 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NU 6027 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. NU 6027 has a solubility of approximately 0.3 mg/ml in a 1:2 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) play a key role in regulating cell division by phosphorylating distinct substrates in different phases of the cell cycle. Cell cycle deregulation in many cancers often results from altered CDK activity. Thus, CDKs are potential pharmacological targets for anticancer agents. NU 6027 inhibits both CDK1 and CDK2 with IC_{50} values of 2.9 and 2.2 µM, respectively.[1] It has been shown to inhibit cellular ataxia telangiectasia mutated and Rad3-related kinase activity (IC_{50} = 6.7 µM) and impair G_2/M arrest in various human cancer cells, potentiating the cytotoxic effects of DNA-damaging, anticancer agents such as cisplatin.[2]

References

1. Sayle, K.L., Bentley, J., Boyle, F.T., *et al.* Structure-based design of 2-arylamino-4-cyclohexylmethyl-5-nitroso-6-aminopyrimidine inhibitors of cyclin-dependent kinases 1 and 2. *Bioorg. Med. Chem. Lett.* **13(18),** 3079-3082 (2003).
2. Peasland, A., Wang, L.Z., Rowling, E., *et al.* Identification and evaluation of a potent novel ATR inhibitor, NU6027, in breast and ovarian cancer cell lines. *Br. J. Cancer* **105(3),** 372-381 (2011).

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