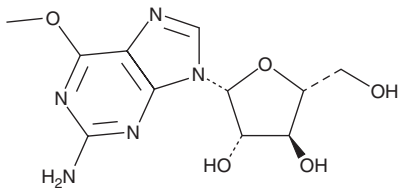
PRODUCT INFORMATION

Nelarabine

Item No. 20248

CAS Registry No.:	121032-29-9
Formal Name:	9-β-D-arabinofuranosyl-6-methoxy-9H-purin-2-amine
Synonyms:	GW 506U78, Nelzarabine
MF:	$C_{11}H_{15}N_5O_5$
FW:	297.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 211, 247, 281 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

Nelarabine is supplied as a crystalline solid. A stock solution may be made by dissolving the nelarabine in the solvent of choice. Nelarabine is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of nelarabine in these solvents is approximately 10 and 3 mg/ml, respectively.

Nelarabine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, nelarabine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Nelarabine 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

Nelarabine is a purine nucleoside analog that is used as a cytotoxic agent in hematological malignancies.[1] Nelarabine is converted into arabinosyl-guanine (ara-G) in the blood, and ara-G is selectively accumulated in T cells and malignant T-lymphoid cells, where it is phosphorylated to produce ara-GTP and incorporated into DNA.[2,3] This leads to DNA breaks, increased expression of Fas ligand, and apoptosis.[1,3] Ara-G is accumulated most effectively by acute lymphoid leukemia and chronic myeloid leukemia blasts.[1]

References

1. Robak, T., Korycka, A., Lech-Maranda, E., *et al.* Current status of older and new purine nucleoside analogues in the treatment of lymphoproliferative diseases. *Molecules* **14(3)**, 1183-1226 (2009).
2. Rodriguez, C.O., Jr., Mitchell, B.S., Ayres, M., *et al.* Arabinosylguanine is phosphorylated by both cytoplasmic deoxycytidine kinase and mitochondrial deoxyguanosine kinase. *Cancer Res.* **62(11)**, 3100-3105 (2002).
3. Rodriguez, C.O., Jr., Stellrecht, C.M., and Gandhi, V. Mechanisms for T-cell selective cytotoxicity of arabinosylguanine. *Blood* **102(5)**, 1842-1848 (2003).

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