

Product Data Sheet

Product Name: Ara-G
Cat. No.: GC45385

Chemical Properties

Cas. No. 38819-10-2

SMILES O[C@H]1[C@H](O)[C@H](N2C=NC3=C2NC(N)=NC3=O)O[C@@H]1CO

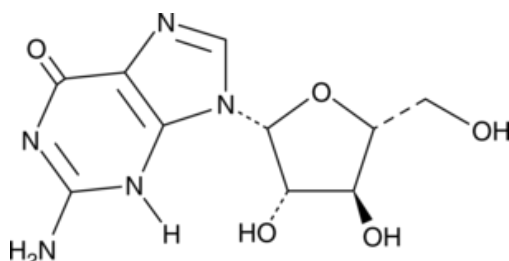
Formula C₁₀H₁₃N₅O₅ M.Wt 283.2

Solubility DMF: 3 mg/ml, DMSO: 5 mg/ml, Ethanol: Partially soluble, PBS (pH 7.2): 0.3 mg/ml
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

Ara-G is an analog of the nucleoside guanosine and an active metabolite of nelarabine. 1,2 Ara-G accumulates in T lymphoblasts and malignant T-lymphoid cells, where it is phosphorylated to produce ara-GTP and incorporated into the DNA. 3,1 Ara-G inhibits DNA replication by 92% after 30 minutes when used at a concentration of 50 µM in CEM cells, which are used as a model for human T lymphoblasts. 1 It also halts the cell cycle at the sub-G1 phase and induces apoptosis in CEM cells. 3 Syngeneic bone marrow containing 6C3HED tumor cells treated with ara-G (100 mM) ex vivo prior to transplantation increases survival of lethally irradiated mice and induces reconstitution of lymphoid, myeloid, and erythroid cell lineages. 4

References

Caution: Product has not been fully validated for medical applications. For research use only.

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1. Leanza, L., Miazzi, C., Ferraro, P., et al. Activation of guanine- β -D-arabinofuranoside and deoxyguanosine to triphosphates by a common pathway blocks T lymphoblasts at different checkpoints. *Exp. Cell Res.* 316(20), 3443-3453 (2010).
2. Lambe, C.U., Averett, D.R., Paff, M.T., et al. 2-Amino-6-methoxypurine arabinoside: An agent for T-cell malignancies. *Cancer Res.* 55(15), 3352-3356 (1995).
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).
4. Kurtzberg, J. Guanine arabinoside as a bone marrow-purging agent. *Ann. N.Y. Acad. Sci* 685(1), 225-236 (1993).

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