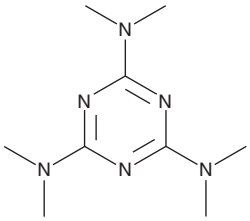
PRODUCT INFORMATION

Altretamine

Item No. 23662

CAS Registry No.:	645-05-6
Formal Name:	N^2,N^2,N^4,N^4,N^6,N^6-hexamethyl-1,3,5-triazine-2,4,6-triamine
Synonyms:	2,4,6-Tris(dimethylamino)-1,3,5-triazine, Hexamethylmelamine, HMM, NSC 13875
MF:	$C_9H_{18}N_6$
FW:	210.3
Purity:	≥98%
Supplied as:	A solid
Storage:	4°C
Stability:	≥4 years



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

Laboratory Procedures

Altretamine is supplied as a solid. A stock solution may be made by dissolving the altretamine in the solvent of choice. Altretamine is soluble in chloroform and slightly soluble in methanol.

Description

Altretamine is an antineoplastic agent with antiproliferative activity.[1] It induces cytotoxicity in an ovarian cancer cell line when used at a concentration of 10 µg/ml, with radiolabeled thymidine uptake equal to 102 and 75% of controls after 48 and 120 hours, respectively.[2] Altretamine (100 µg/ml) reduces colony survival in A204 human rhabdomyosarcoma cells in an NADP-dependent manner in the presence of an S-9 hepatic activating mixture.[3] *In vivo*, altretamine (150 mg/kg) reduces tumor growth in a mouse model of M5076 murine reticulum cell sarcoma.[1] Altretamine (0.5 mM) inhibits glutathione peroxidase 4 (GPX4) and induces accumulation of lipid-reactive oxygen species (ROS) in U-2932 cells without depleting glutathione (GSH) levels, suggesting it is a class II ferroptosis-inducing compound (FIN).[4] It also acts as a chemosterilant in houseflies, preventing hatching and pupation in male and female houseflies when used at a concentration of 0.05%.[5] Formulations of altretamine have been used in the treatment of various cancers.

References

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2. D'Incalci, M., Erba, E., Balconi, G., *et al.* Time dependence of the *in vitro* cytotoxicity of hexamethylmelamine and its metabolites. *Br. J. Cancer* **41(4)**, 630-635 (1980).
3. Miller, K.J., McGovern, R.M., and Ames, M.M. Effect of a hepatic activation system on the antiproliferative activity of hexamethylmelamine against human tumor cell lines. *Cancer Chemother. Pharmacol.* **15(1),** 49-53 (1985).
4. Woo, J.H., Shimoni, Y., Yang, W.S., *et al.* Elucidating compound mechanism of action by network perturbation analysis. *Cell* **162(2),** 441-451 (2015).
5. LaBrecque, G.C., Fye, R.L., DeMilo, A.B., *et al.* Substituted melamines as chemosterilants of house flies. *J. Econ. Entomol.* **61(6)**, 1621-1632 (1968).

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