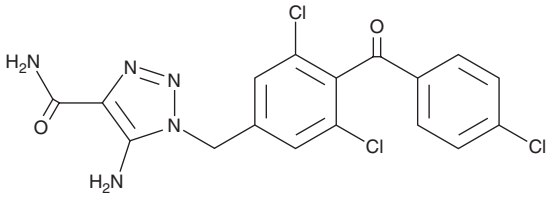
PRODUCT INFORMATION

Carboxyamidotriazole

Item No. 28732

CAS Registry No.: 99519-84-3
Formal Name: 5-amino-1-[[3,5-dichloro-4-(4-chlorobenzoyl)phenyl]methyl]-1H-1,2,3-triazole-4-carboxamide
Synonyms: CAI, L-651,582, NSC 609974
MF: $C_{17}H_{12}Cl_3N_5O_2$
FW: 424.7
Purity: ≥98%
Supplied as: A 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

Carboxyamidotriazole is supplied as a solid. A stock solution may be made by dissolving the carboxyamidotriazole in the solvent of choice, which should be purged with an inert gas. Carboxyamidotriazole is slightly soluble in DMSO and methanol (warmed).

Description

Carboxyamidotriazole is an orally bioavailable, non-selective calcium channel blocker.[1] It blocks L- and T-type calcium channels in GH3 rat pituitary cancer cells (IC_{50}s = 0.5 and 1.5 µg/ml, respectively). It also inhibits calcium influx stimulated by the acetylcholine receptor agonist carbachol (carbamoylcholine; Item No. 14486) and the calcium ionophore A23187 (Item Nos. 11016 | 22030) in CHO cells expressing human recombinant muscarinic M_5 receptors (IC_{50}s = 935 and 359 nM, respectively).[2] Carboxyamidotriazole inhibits the growth of *T. gondii* in non-cancerous human fibroblasts and HeLa human cervical cancer cells (IC_{50} = 0.06 µg/ml for both).[3] It inhibits the growth of FaDu and EVSCC17M human squamous cell carcinoma cells (IC_{50}s = 13 and 15 µM, respectively) and of human umbilical vein endothelial cells (HUVECs; IC_{50} = 1 µM) *in vitro*.[4,5] Carboxyamidotriazole (20 µM) also inhibits angiogenesis in a chicken chorioallantoic membrane assay *in vivo*.[5]

References

1. Hupe, D.J., Boltz, R., Cohen, C.J., *et al.* The inhibition of receptor-mediated and voltage-dependent calcium entry by the antiproliferative L-651,582. *J. Biol. Chem.* **266(16),** 10136-10142 (1991).
2. Felder, C.C., Ma, A.L., Liotta, L.A., *et al.* The antiproliferative and antimetastatic compound L651582 inhibits muscarinic acetylcholine receptor-stimulated calcium influx and arachidonic acid release. *J. Pharmacol. Exp. Ther.* **257(3),** 967-971 (1991).
3. Hupe, D.J., Pfefferkorn, E.R., Behrens, N.D., *et al.* L-651,582 inhibition of intracellular parasitic protozoal growth correlates with host-cell directed effects. *J. Pharmacol. Exp. Ther.* **256(2),** 462-467 (1991).
4. Wu, Y., Palad, A.J., Wasilenko, W.J., *et al.* Inhibition of head and neck squamous cell carcinoma growth and invasion by the calcium influx inhibitor carboxyamido-triazole. *Clin. Cancer Res.* **3(11),** 1915-1921 (1997).
5. Kohn, E.C., Alessandro, R., Spoonster, J., *et al.* Angiogenesis: Role of calcium-mediated signal transduction. *Proc. Natl. Acad. Sci. USA* **92(5),** 1307-1311 (1995).

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