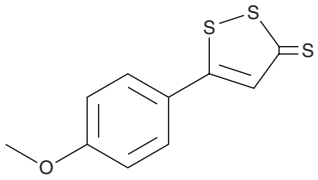
PRODUCT INFORMATION

Anethole Trithione

Item No. 35397

CAS Registry No.: 532-11-6
Formal Name: 5-(4-methoxyphenyl)-3H-1,2-dithiole-3-thione
Synonyms: ADT, Anethole Dithiolthione, Anetholdithiolthione, SKF 1717, Trithio-*p*-methoxyphenylpropene
MF: $C_{10}H_8OS_3$
FW: 240.4
Purity: ≥98%
UV/Vis.: λ_{max}: 236, 349, 433 nm
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

Anethole trithione is supplied as a solid. A stock solution may be made by dissolving the anethole trithione in the solvent of choice, which should be purged with an inert gas. Anethole trithione is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of anethole trithione in these solvents is approximately 10 and 12 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of anethole trithione can be prepared by directly dissolving the solid in aqueous buffers. The solubility of anethole trithione in PBS (pH 7.2) is approximately 0.30 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Anethole trithione is a dithiolthione with diverse biological activities.[1-4] It selectively binds to α-adrenergic receptors (α-ARs) over β-ARs and muscarinic acetylcholine receptors (mAChRs) in isolated rat parotid acini (IC_{50}s = 16.7, >100, and >100 µM, respectively).[1] Anethole trithione enhances saliva secretion induced by the mAChR agonist pilocarpine (Item No. 14487) or electrical stimulation of the parasympathetic nerve in rats.[2] It reduces tumor incidence and multiplicity in a rat model of azoxymethane-induced colon adenocarcinoma when administered in the diet at 100 and 200 ppm.[3] Anethole trithione (500 mg/kg) prevents decreases in hepatic glutathione (GSH) levels and decreases mortality in mouse models of hepatotoxicity induced by acetaminophen (Item No. 10024) or carbon tetrachloride.[4] Formulations containing anethole trithione have been used in the treatment of dry mouth.

References

1. Glenert, U. Acute effects of a possible sialogogue, anethole trithione, in rat parotid glands. *Eur. J. Pharmacol.* **209(4)**, 287-295 (1991).
2. Ukai, Y., Taniguchi, N., Takeshita, K., *et al.* Chronic anethole trithione treatment enhances the salivary secretion and increases the muscarinic acetylcholine receptors in the rat submaxillary gland. *Arch. Int. Pharmacodyn. Ther.* **271(2)**, 206-212 (1984).
3. Reddy, B.S., Rao, C.V., Rivenson, A., *et al.* Chemoprevention of colon carcinogenesis by organosulfur compounds. *Cancer Res.* **53(15)**, 3493-3498 (1993).
4. Ansher, S.S., Dolan, P., and Bueding, E. Chemoprotective effects of two dithiolthiones and of butylhydroxyanisole against carbon tetrachloride and acetaminophen toxicity. *Hepatology* **3(6)**, 932-935 (1983).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM