

PRODUCT INFORMATION

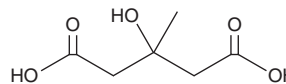


Meglutol

Item No. 33832

CAS Registry No.: 503-49-1
Formal Name: 3-hydroxy-3-methyl-pentanedioic acid
Synonyms: CB 337, Dicrotic Acid,
3-hydroxy 3-methyl Glutaric Acid, HMG,
3-methyl-3-Hydroxyglutaric Acid,
NSC 361411, Medroglutaric Acid,
3-hydroxy-3-Methylglutaric Acid

MF: C₆H₁₀O₅
FW: 162.1
Purity: ≥95%
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

Meglutol is supplied as a solid. A stock solution may be made by dissolving the meglutol in the solvent of choice, which should be purged with an inert gas. Meglutol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of meglutol in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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 meglutol can be prepared by directly dissolving the solid in aqueous buffers. The solubility of meglutol in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Meglutol is an HMG-CoA reductase inhibitor (IC₅₀ = 4 nM) and antimetabolite of mevalonic acid.¹ Dietary administration of meglutol (10, 20, and 30 mg/kg per day) reduces serum total cholesterol levels in normal rats, as well as reduces them in high-cholesterol fed and hypercholesterolemic rats when administered in the drinking water at a dose of 50 mg/kg per day.² It also reduces serum levels of cholesterol, triglycerides, phospholipids, and free fatty acids, as well as the severity of aortic atherosclerotic lesions, in a rabbit model of atherosclerosis induced by a high-cholesterol diet when administered at a dose of 25 mg/animal per day.³ Intracerebroventricular administration of meglutol (0.5 μmol/g) induces lipid peroxidation and decreases the activity of glutathione peroxidase in the cerebral cortex of one-day old rat pups.⁴ Meglutol accumulates in the tissues and fluids of patients with HMG-CoA lyase deficiency, a disorder characterized by metabolic acidosis, hypoglycemia, and lethargy.⁴

References

1. Medina-Franco, J.L., López-Vallejo, F., Rodríguez-Morales, S., *et al.* *Bioorg. Med. Chem. Lett.* **15(4)**, 989-994 (2005).
2. Beg, Z.H. and Siddiqi, M. *Experientia* **23(5)**, 380 (1967).
3. Lupien, P.J., Tremblay, M., and Beg, Z.H. *Atherosclerosis* **18(3)**, 407-416 (1973).
4. da Rosa, M.S., da Rosa-Junior, N.T., Parmeggiani, B., *et al.* *Neurotox. Res.* **37(2)**, 314-325 (2020).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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