

Product Data Sheet

Product Name: Cholesteryl Hemisuccinate

Cat. No.: GC43258

Chemical Properties

Cas. No. 1510-21-0

SMILES C[C@]12C(C[C@@H](OC(CCC(O)=O)=O)CC2)=CC[C@]3([H])[C@]1([H])CC[C@@]4(C)[C@@]3([H])CC[C@@]4([C@@H](CCCC(C)C)C)[H]

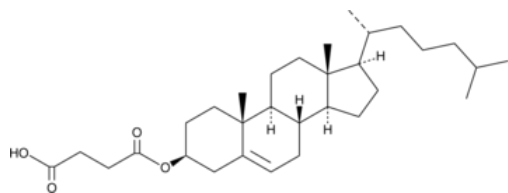
Formula $C_{31}H_{50}O_4$ M.Wt 486.7

Solubility Chloroform: 10 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



Protocol

Animal experiment [1]:

Animal models ICR mice

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Acetaminophen (AAP) and Cholesteryl Hemisuccinate both were dissolved in normasaline and administered i.p. The Cholesteryl Hemisuccinate solution was vigorously sonicated forming a uniform suspension and pH adjusted to 7.4. Animals were administered Cholesteryl Hemisuccinate (100mg/kg, i.p.) and were returned to a normal diet for 12h. Next animals were fasted for 12h and received AAP exposure. 2h after AAP administration the animals were given free access to food and water. 24h after AAP exposure, animals were killed and tissues (blood and liver) were obtained for biochemical and morphological analyses.

Dosage form 100mg/kg; i.p.

Applications Cholesteryl Hemisuccinate pretreatment inhibited AAP-induced liver injury and suppressed hepatocyte necrosis and apoptosis.

References:

[1] Ray S D, Mumaw V R, Raje R R, et al. Protection of acetaminophen-induced hepatocellular apoptosis and necrosis by cholesteryl hemisuccinate[J]. Journal of Pharmacology and Experimental Therapeutics, 1996, 279: 1470-1483.

Background

Cholesteryl Hemisuccinate is an acidic cholesterol ester with hepatoprotective and anticancer activities^[1, 2]. Cholesteryl Hemisuccinate inhibits DNA polymerase and DNA topoisomerase and promotes DNA replication and repair^[3]. Cholesteryl Hemisuccinate is a detergent widely used in protein crystallography, protein biochemistry research and pharmacology^[4]. Cholesteryl Hemisuccinate can inhibit the attachment and spreading of epithelial cells^[5].

In vivo, Cholesteryl Hemisuccinate (100mg/kg) pre-treated ICR mice treated with acetaminophen

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

(AAP) by intraperitoneal injection inhibited AAP-induced liver injury and suppressed hepatocyte necrosis and apoptosis^[6].

References:

- [1] Fariss M W, Fortuna M B, Everett C K, et al. The selective antiproliferative effects of α -tocopheryl hemisuccinate and cholesteryl hemisuccinate on murine leukemia cells result from the action of the intact compounds[J]. Cancer Research, 1994, 54(13): 3346-3351.
- [2] Shah H, Madni A, Khan M M, et al. pH-responsive liposomes of dioleoyl phosphatidylethanolamine and cholesteryl hemisuccinate for the enhanced anticancer efficacy of cisplatin[J]. Pharmaceutics, 2022, 14(1): 129.
- [3] Varshosaz J, Taymouri S, Hassanzadeh F, et al. Folated Synperonic-Cholesteryl Hemisuccinate Polymeric Micelles for the Targeted Delivery of Docetaxel in Melanoma[J]. BioMed research international, 2015, 2015(1): 746093.
- [4] Kulig W, Jurkiewicz P, Olżyńska A, et al. Experimental determination and computational interpretation of biophysical properties of lipid bilayers enriched by cholesteryl hemisuccinate[J]. Biochimica et Biophysica Acta (BBA)-Biomembranes, 2015, 1848(2): 422-432.
- [5] Sauk J J, Krumwiede M, Cooking-Johnson D, et al. Alterations in lipid fluidity induced by cholesterol and cholesterol hemisuccinate modulate the organization of microtubule skeletons in epithelial cells[J]. Journal of Oral Pathology & Medicine, 1987, 16(2): 69-74.
- [6] Ray S D, Mumaw V R, Raje R R, et al. Protection of acetaminophen-induced hepatocellular apoptosis and necrosis by cholesteryl hemisuccinate[J]. Journal of Pharmacology and Experimental Therapeutics, 1996, 279: 1470-1483.

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA