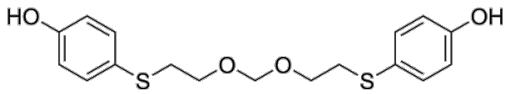
Product Data Sheet

Product Name: Bis[2-(4-hydroxyphenylthio)ethoxy]methane
Cat. No.: GC79365

Chemical Properties

Cas. No.	93589-69-6		
Formula	$C_{17}H_{20}O_4S_2$	M.Wt	352.47
Solubility	DMSO: 100 mg/mL (283.71 mM; Need ultrasonic)	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			



Background

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Bis[2-(4-hydroxyphenylthio) ethoxy]methane (DD-70) is a Bisphenol A substitute and a COX-1 inhibitor. Bis[2-(4-hydroxyphenylthio) ethoxy]methane blocks platelet aggregation induced by Arachidonic acid and U-46619. Bis[2-(4-hydroxyphenylthio) ethoxy]methane alters hemostatic function. Bis[2-(4-hydroxyphenylthio) ethoxy]methane reduces embryonic survival rate, decreases embryonic mass and increases gallbladder mass in chicken embryos [1] [2] [3].

In Vivo, DD-70 (1.09-88.2 μg/g; air sac injection; single administration on day 0) reduces the survival rate of mid-incubation chicken embryos to 63% at doses of 40.9 μg/g and 88.2 μg/g, decreases embryo quality at the dose of 88.2 μg/g, increases gallbladder weight at the dose of 40.9 μg/g, and dysregulates hepatic genes involved in lipid homeostasis and estrogen response.

In Vitro, Bis[2-(4-hydroxyphenylthio) ethoxy]methane (4 h) exhibits low acute toxicity toward red blood cells, with a TC50 greater than 500 μM[1]. Bis[2-(4-hydroxyphenylthio) ethoxy]methane (0-80 μM; 3 min) potently inhibits arachidonic acid -induced platelet aggregation in whole blood, with an IC_{50} of 5.0 μM[1]. Bis[2-(4-hydroxyphenylthio) ethoxy]methane (20-80 μM; 3 min) inhibits U-46619 -induced platelet aggregation in whole blood in a concentration-dependent manner[1]. Bis[2-(4-hydroxyphenylthio) ethoxy]methane (0.1-100 μM; 3 min) potently inhibits the production of Thromboxane A2 from Arachidonic acid in platelet-rich plasma[1]. Bis[2-(4-hydroxyphenylthio) ethoxy]methane (1-100 μM) potently inhibits recombinant ovine cyclooxygenase 1, with greater efficacy than Acetylsalicylic acid, and reaches maximum inhibitory effect at concentrations ≥10 μM[1]. Bis[2-(4-hydroxyphenylthio) ethoxy]methane (0.1-40 μM, combined with 30 μM ASA; 3 min) dose-dependently enhances the antiplatelet effect of Acetylsalicylic acid against Arachidonic acid-induced platelet aggregation in whole blood[1]. Bis[2-(4-hydroxyphenylthio) ethoxy]methane (0.01-300 μM; 24 h) exhibits higher cytotoxicity towards chicken embryo hepatocytes than Bisphenol A, with an LC50 of 32.9 μM following 24 h of exposure[2].

References:
[1]. Hrubša M, et al. A novel bisphenol A alternative, DD-70, may negatively affect haemostasis through cyclooxygenase 1 inhibition[J]. Environment International, 2025: 109738.
[2]. Sharin T, et al. Effects of two Bisphenol A replacement compounds, 1,7-bis (4-hydroxyphenylthio)-3,5-dioxaheptane and Bisphenol AF, on development and mRNA expression in chicken embryos. Ecotoxicol Environ Saf. 2021 Jun 1;215:112140.

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

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[3]. Sharin T, et al. Toxicity Screening of Bisphenol A Replacement Compounds: Cytotoxicity and mRNA Expression in Primary Hepatocytes of Chicken and Double-Crested Cormorant. Environ Toxicol Chem. 2021 May;40(5):1368-1378.

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