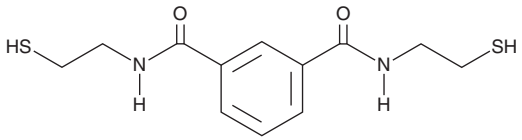
PRODUCT INFORMATION

Emeramide

Item No. 32889

CAS Registry No.:	351994-94-0
Formal Name:	N^1,N^3-*bis*(2-mercaptoethyl)-1,3-benzenedicarboxamide
Synonyms:	$BDTH_2$, NBMI
MF:	$C_{12}H_{16}N_2O_2S_2$
FW:	284.4
Purity:	≥98%
Supplied as:	A crystalline 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

Emeramide is supplied as a crystalline solid. A stock solution may be made by dissolving the emeramide in the solvent of choice, which should be purged with an inert gas. Emeramide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of emeramide in these solvents is approximately 30 mg/ml.

Emeramide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, emeramide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Emeramide has a solubility of approximately 0.50 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Emeramide is an antioxidant heavy metal chelator.[1] It prevents methylmercury-induced glutathione (GSH) loss, and cytotoxicity to, isolated mouse aortic endothelial cells when used at a concentration of 50 µM. Emeramide (50 µM) also prevents reactive oxygen species (ROS) production and cytotoxicity induced by bleomycin (Item No. 13877) in primary bovine pulmonary artery endothelial cells.[2] It increases survival of rats in a model of mercury chloride-induced toxicity when administered at a dose of 2 mg/kg.[3]

References

1. Secor, J.D., Kotha, S.R., Gurney, T.O., *et al.* Novel lipid-soluble thiol-redox antioxidant and heavy metal chelator, N,N'-*bis*(2-mercaptoethyl)isophthalamide (NBMI) and phospholipase D-specific inhibitor, 5-fluoro-2-indolyl des-chlorohalopemide (FIPI) attenuate mercury-induced lipid signaling leading to protection against cytotoxicity in aortic endothelial cells. *Int. J. Toxicol.* **30(6)**, 619-638 (2011).
2. Patel, R.B., Kotha, S.R., Sauers, L.A., *et al.* Thiol-redox antioxidants protect against lung vascular endothelial cytoskeletal alterations caused by pulmonary fibrosis inducer, bleomycin: Comparison between classical thiol-protectant, *N*-acetyl-L-cysteine, and novel thiol antioxidant, *N,N'*-bis-2-mercaptoethyl isophthalamide. *Toxicol. Mech. Methods* **22(5)**, 383-396 (2012).
3. Clarke, D., Buchanan, R., Gupta, N., *et al.* Amelioration of acute mercury toxicity by a novel, non-toxic lipid soluble chelator N,N'bis-(2-mercaptoethyl)isophthalamide: Effect on animal survival, health, mercury excretion and organ accumulation. *Toxicol. Environ. Chem.* **94(3)**, 616-640 (2012).

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