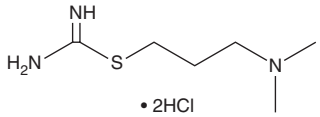
PRODUCT INFORMATION

Dimaprit (hydrochloride)

Item No. 29418

CAS Registry No.:	23256-33-9
Formal Name:	carbamimidothioic acid, 3-(dimethylamino)propyl ester, dihydrochloride
MF:	$C_6H_{15}N_3S \bullet 2HCl$
FW:	234.2
Purity:	≥95%
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

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

Dimaprit (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dimaprit (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Dimaprit (hydrochloride) has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dimaprit is a histamine H_2 receptor agonist with a K_i value of 44 µM in guinea pig right atrium.[1,2] It is selective for histamine H_2 over H_1 and H_3 receptors with relative potencies of 71, <0.0001, and <0.008, respectively, compared to histamine. Dimaprit (6 µM) inhibits histamine release from isolated peritoneal mast cells in a rat model of anaphylaxis induced by *A. suum* extract, which is not affected by pretreatment with mepyramine (Item No. 20978), an H_1 receptor inverse agonist, or cimetidine (Item No. 18743), an H_2 receptor antagonist.[3] It stimulates gastric acid secretion *in vivo* in anaesthetized rats and cats with relative potencies of 19.5 and approximately 400 to 500, respectively, compared to histamine.[4] Dimaprit inhibits 2-(2-pyridyl)ethylamine-induced bronchoconstriction in guinea pigs in a dose-dependent manner.[5]

References

1. Hill, S.J. Distribution, properties, and functional characteristics of three classes of histamine receptor. *Pharmacol. Rev.* **42(1)**, 45-83 (1990).
2. Rising, T.J. and Steward, A. The determination of receptor constants for histamine H_2-agonists in the guinea-pig isolated right atrium using an irreversible H_2-antagonist. *Br. J. Pharmacol.* **87(1)**, 211-216 (1986).
3. Kohno, S., Ogawa, K., Nabe, T., *et al.* Dimaprit, a histamine H_2-agonist, inhibits anaphylactic histamine release from mast cells and the decreased release is restored by thioperamide (H_3-antagonist), but not by cimetidine (H_2-antagonist). *Jpn. J. Pharmacol.* **62(1)**, 75-79 (1993).
4. Parsons, M.E., Owen, D.A.A., Ganellin, C.R., *et al.* Dimaprit-[S-[3-(N,N-dimethylamino)propyl]isothiourea] — A highly specific histamine H_2-receptor agonist. Part 1. Pharmacology. *Agents Actions* **7(1)**, 31–37 (1977).
5. Drazen, J.M., Schneider, M.W., and Venugopalan, C.S. Bronchodilator activity of dimaprit in the guinea pig in vitro and in vivo. *Eur. J. Pharmacol.* **55(3)**, 233-239 (1979).

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