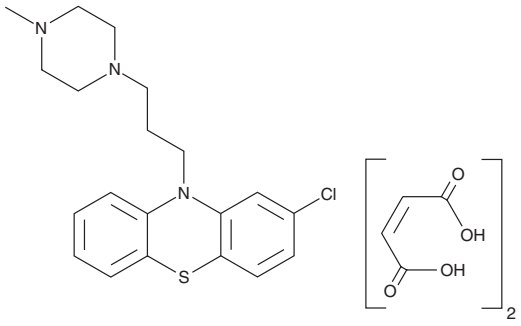
PRODUCT INFORMATION

Prochlorperazine (maleate)

Item No. 20742

CAS Registry No.:	84-02-6
Formal Name:	2-chloro-10-[3-(4-methyl-1-piperazinyl)propyl]-10H-phenothiazine, dimaleate
MF:	$C_{20}H_{24}ClN_3S \bullet 2C_4H_4O_4$
FW:	606.1
Purity:	≥98%
UV/Vis.:	λ_{max}: 258, 312 nm
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

Prochlorperazine (maleate) is supplied as a crystalline solid. A stock solution may be made by dissolving the prochlorperazine (maleate) in the solvent of choice, which should be purged with an inert gas. Prochlorperazine (maleate) is soluble in the organic solvent DMSO at a concentration of approximately 10 mg/ml.

Prochlorperazine (maleate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, prochlorperazine (maleate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Prochlorperazine (maleate) has a solubility of approximately 0.16 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Prochlorperazine is a dopamine D_2 receptor antagonist with K_i values of 4.7 and 2.9 nM for rat recombinant D_2 receptors in CHO cells and rat striatal membranes, respectively.[1,2] It also binds to rat recombinant D_3 receptors expressed in CHO cells (K_i = 35 nM) and to the serotonin (5-HT) receptor subtype 5-HT_3 in N1E-115 mouse neuroblastoma cell membranes (K_i = 1,200 nM).[1,3] Prochlorperazine (2 mg/kg) increases the latency to paw licking in a hot plate test, indicating analgesia, an effect that is blocked by antisense oligonucleotides against the M_1 muscarinic receptor.[4] It also inhibits emesis induced by apomorphine (Item No. 16094) in dogs (ED_{50} = 0.34 mg/kg).[5] Formulations containing prochlorperazine have been used in the treatment of psychotic disorders and as antiemetics.

References

1. Sokoloff, P., Giros, B., Martres, M.P., *et al.* Molecular cloning and characterization of a novel dopamine receptor (D_3) as a target for neuroleptics. *Nature* **137(6289)**, 146-151 (1990).
2. Tsuchihashi, H., Sasaki, T., Kojima, S., *et al.* Binding of [^{3}H]haloperidol to dopamine D_2 receptors in the rat striatum. *J. Pharm. Pharmacol.* **44(11)**, 911-914 (1992).
3. Lummis, S.C. and Baker, J. Radioligand binding and photoaffinity labelling studies show a direct interaction of phenothiazines at 5-HT_3 receptors. *Neuropharmacology* **36(4-5)**, 665-670 (1997).
4. Ghelardini, C., Galeotti, N., Uslenghi, C., *et al.* Prochlorperazine induces central antinociception mediated by the muscarinic system. *Pharmacol. Res.* **50(3)**, 351-358 (2004).
5. Niemegeers, C.J.E. Antiemetic specificity of dopamine antagonists. *Psychopharmacology (Berl).* **78(3)**, 210-213 (1982).

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