

PRODUCT INFORMATION



Urapidil (hydrochloride)

Item No. 29004

CAS Registry No.: 64887-14-5
Formal Name: 6-[[3-[4-(2-methoxyphenyl)-1-piperazinyl]propyl]amino]-1,3-dimethyl-2,4(1H,3H)-pyrimidinedione monohydrochloride

MF: C₂₀H₂₉N₅O₃ • HCl

FW: 423.9

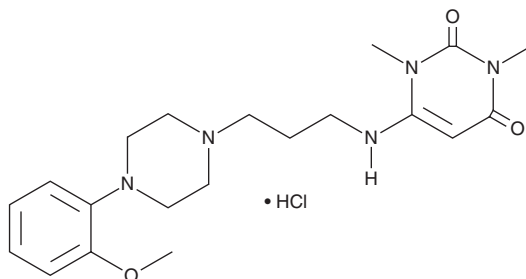
Purity: ≥98%

UV/Vis.: λ_{max}: 267 nm

Supplied as: A 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

Urapidil (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the urapidil (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Urapidil (hydrochloride) is soluble in the organic solvent DMSO at a concentration of approximately 3 mg/ml. Urapidil (hydrochloride) is slightly soluble in the organic solvent dimethyl formamide.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of urapidil (hydrochloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of urapidil (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Urapidil is an antagonist of α₁-adrenergic receptors (α₁-ARs) and a partial agonist of the serotonin (5-HT) receptor subtype 5-HT_{1A}.^{1,2} It selectively binds to α₁- over α₂-ARs (IC₅₀s = 0.74 and 42 μM, respectively) and to 5-HT_{1A} over 5-HT_{1B} and 5-HT₂ receptors (IC₅₀s = 0.4, 20.4, and >10 μM, respectively) in rat cortex.¹ Urapidil inhibits cAMP accumulation induced by forskolin in calf hippocampus as a functional model for 5-HT_{1A} receptors (EC₅₀ = 390 nM).³ It is also a β₁-AR antagonist that inhibits the positive chronotropic response induced by isoproterenol (Item No. 15592) in isolated rat atria (pA₂ = 6.05).⁴ Urapidil (1 μmol/kg, i.v.) lowers mean arterial pressure (MAP) in anesthetized cats, an effect that is reduced by central administration of the 5-HT_{1A} receptor antagonist spiroxatrine.⁵

References

1. Gross, G., Hanft, G., and Kolassa, N. *Naunyn Schmiedebergs Arch Pharmacol.* **336(6)**, 597-601 (1987).
2. Van Zwieten, P.A. *Am. J. Cardiol.* **64(7)**, 1D-6D (1989).
3. Schoeffter, P. and Hoyer, D. *Br. J. Pharmacol.* **95(3)**, 975-985 (1988).
4. Verberne, A.J. and Rand, M.J. *Eur. J. Pharmacol.* **108(2)**, 193-196 (1985).
5. Kolassa, N., Beller, K.D., and Sanders, K.H. *Am. J. Cardiol.* **64(7)**, 7D-10D (1989).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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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