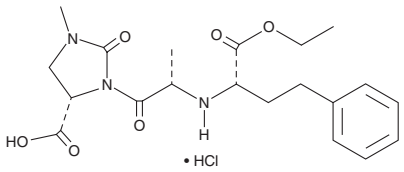
PRODUCT INFORMATION

Imidapril (hydrochloride)

Item No. 18854

CAS Registry No.: 89396-94-1
Formal Name: 3-[(2S)-2-[[(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-1-methyl-2-oxo-4S-imidazolidinecarboxylic acid, monohydrochloride
Synonym: TA-6366
MF: $C_{20}H_{27}N_3O_6 \bullet HCl$
FW: 441.9
Purity: ≥98%
UV/Vis.: λ_{max}: 210 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

Imidapril (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the imidapril (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Imidapril (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of imidapril (hydrochloride) in these solvents is approximately 0.25, 25, and 15 mg/ml, respectively.

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 imidapril (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of imidapril (hydrochloride) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Imidapril is a prodrug form of the angiotensin-converting enzyme (ACE) inhibitor imidaprilat.[1] Imidapril is converted to imidaprilat by carboxylesterase 1 (CES1).[2] It inhibits swine renal cortex ACE activity *in vitro* (IC_{50} = 9.9 µM) and the angiotensin I-induced pressor response in normotensive rats.[1] Imidapril (2 mg/kg) decreases blood pressure in spontaneously hypertensive and two kidney-one clip (2K-1C) renal hypertensive rats. It decreases stroke incidence and increases survival in stroke-prone spontaneously hypertensive rats fed a high-salt diet.[3] Imidapril (5 mg/kg) reduces urinary albumin excretion, a marker of renal damage, in a mouse model of diabetes induced by streptozotocin (Item No. 13104).[4]

References

1. Kubo, M., Kato, J., Ochiai, T., *et al*. Pharmacological studies on (4S)-1-methyl-3-[(2S)-2-[N-((1S)-1-ethoxycarbonyl-3-phenylpropyl)amino] propionyl]-2-oxo-imidazolidine-4-carboxylic acid hydrochloride (TA-6366), a new ACE inhibitor: I. ACE inhibitory and anti-hypertensive activities. *Jpn. J. Pharmacol.* **53(2)**, 201-210 (1990).
2. Takai, S., Matsuda, A., Usami, Y., *et al*. Hydrolytic profile for ester- or amide-linkage by carboxylesterases pI 5.3 and 4.5 from human liver. *Bio. Pharm. Bull.* **20(8)**, 869-873 (1997).
3. Oriku, N., Sumikawa, H., Hashimoto, Y., *et al*. Prophylactic effect of imidapril on stroke in stroke-prone spontaneously hypertensive rats. *Stroke* **24(2)**, 245-252 (1993).
4. Katoh, M., Ohmachi, Y., Kurosawa, Y., *et al*. Effects of imidapril and captopril on streptozotocin-induced diabetic nephropathy in mice. *Eur. J. Pharmacol.* **398(3)**, 381-387 (2000).

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