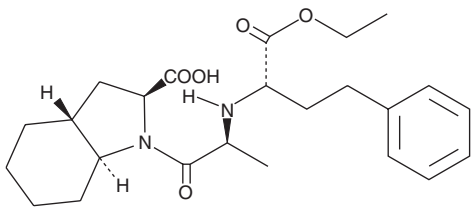
PRODUCT INFORMATION

Trandolapril

Item No. 13522

CAS Registry No.: 87679-37-6
Formal Name: (2S,3aR,7aS)-1-[(2S)-2-[[(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]octahydro-1H-indole-2-carboxylic acid
Synonym: RU-44570
MF: $C_{24}H_{34}N_2O_5$
FW: 430.5
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

Trandolapril is supplied as a crystalline solid. A stock solution may be made by dissolving the trandolapril in the solvent of choice. Trandolapril is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of trandolapril 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 trandolapril can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of trandolapril in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Trandolapril is a prodrug form of the angiotensin-converting enzyme (ACE) inhibitor trandolaprilat (Item No. 29577).[1] Trandolapril is converted to trandolaprilat by carboxylesterase 1 (CES1) in human liver microsomes. It inhibits angiotensin I-induced pressor responses in rats and dogs (ID_{50}s = 13.1 and 21.1 µg/kg, respectively) and potentiates the bradykinin-induced depressor response in rats (ED_{50} = 5.5 µg/kg).[2] Trandolapril (0.1, 0.3, and 1 mg/kg) decreases systolic and diastolic arterial pressure in dogs. It decreases mean arterial pressure (MAP) and left ventricular end-diastolic pressure (LVEDP) in a rat model of heart failure induced by left coronary artery occlusion when administered at a dose of 3 mg/kg.[3] Trandolapril (0.01 and 1 mg/kg) increases survival in stroke-prone spontaneously hypertensive rats fed a high-salt diet.[4] Formulations containing trandolapril have been used in the treatment of hypertension.

References

1. Zhu, H.-J., Appel, D.I., Johnson, J.A., *et al. Biochem Pharmacol.* **77(7)**, 1266-1272 (2009).
2. Brown, N.L., Badel, M.-Y., Benzoni, F., *et al. Eur. J. Pharmacol.* **148(1)**, 79-91 (1988).
3. Sanbe, A., Tanonaka, K., Kobayasi, R., *et al. J. Mol. Cell. Cardiol.* **27(10)**, 2209-2222 (1995).
4. Richer, C., Fornes, P., Vacher, E., *et al. Am. J. Cardiol.* **73(10)**, 26C-35C (1994).

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