

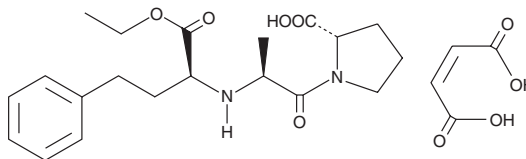
# PRODUCT INFORMATION



## Enalapril (maleate)

Item No. 16041

**CAS Registry No.:** 76095-16-4  
**Formal Name:** N-[(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]-L-alanyl-L-proline, 2Z-butenedioate  
**MF:** C<sub>20</sub>H<sub>28</sub>N<sub>2</sub>O<sub>5</sub> • C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>  
**FW:** 492.5  
**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

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

### Description

Enalapril is an inhibitor of angiotensin-converting enzyme (ACE; IC<sub>50</sub> = 1.2 nM in porcine plasma).<sup>1</sup> *In vivo*, enalapril (0.05-1 mg/kg, p.o.) inhibits pressor responses induced by angiotensin I (Item No. 24737) in rats and dogs in a dose-dependent manner. Enalapril reduces heart rate, systolic and diastolic blood pressures, and heart weight/body weight ratio in salt-sensitive and -resistant Dahl rats fed a high-salt or low-salt diet.<sup>2</sup> Formulations containing enalapril have been used for the treatment of hypertension, congestive heart failure, myocardial infarction, and diabetic nephropathies.<sup>3</sup>

### References

1. Gross, D.M., Sweet, C.S., Ulm, E.H., *et al.* Effect of N-[(S)-1-carboxy-3-phenylpropyl]-L-Ala-L-Pro and its ethyl ester (MK-421) on angiotensin converting enzyme *in vitro* and angiotensin I pressor responses *in vivo*. *J. Pharmacol. Exp. Ther.* **216**(3), 552-557 (1981).
2. Sharma, J.N., Fernandez, P.G., Kim, B.K., *et al.* Cardiac regression and blood pressure control in the Dahl rat treated with either enalapril maleate (MK 421, an angiotensin converting enzyme inhibitor) or hydrochlorothiazide. *J. Hypertens.* **1**(3), 251-256 (1983).
3. Redelinghuys, P., Nchinda, A.T., and Sturrock, E.D. Development of domain-selective angiotensin I-converting enzyme inhibitors. *Ann. N. Y. Acad. Sci.* **1056**, 160-175 (2005).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/19/2022

#### 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