

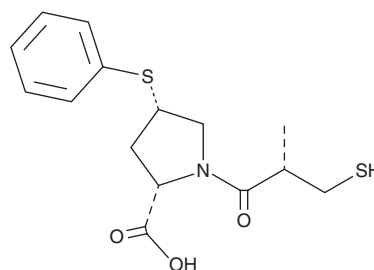
PRODUCT INFORMATION



Zofenoprilat

Item No. 38124

CAS Registry No.: 75176-37-3
Formal Name: 1-[(2S)-3-mercapto-2-methyl-1-oxopropyl]-4S-(phenylthio)-L-proline
Synonyms: SQ 26,333, Zofenopril-SH
MF: C₁₅H₁₉NO₃S₂
FW: 325.4
Purity: ≥95%
Supplied as: A semi-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

Zofenoprilat is supplied as a semi-solid. A stock solution may be made by dissolving the zofenoprilat in the solvent of choice, which should be purged with an inert gas. Zofenoprilat is soluble in methanol, DMSO, dimethyl formamide, acetonitrile, and ethanol.

Description

Zofenoprilat is an inhibitor of angiotensin-converting enzyme (ACE; IC₅₀ = 8 nM for the rabbit lung enzyme) and an active metabolite of the prodrug zofenopril (Item No. 29525).^{1,2} It inhibits angiotensin I- or bradykinin-induced contractions of isolated guinea pig ileum (EC₅₀s = 3 and 1 nM, respectively).¹ Zofenoprilat (10 nM) decreases basal endothelin-1 secretion and nitric oxide (NO) production, as well as prevents TNF-α-induced increases in reactive oxygen species (ROS) and decreases in glutathione (GSH) levels, in human umbilical vein endothelial cells (HUVECs).³ It protects primary human cardiac microvascular endothelial cells against doxorubicin-induced cytotoxicity when used at a concentration of 10 μM.⁴ Zofenoprilat (10 μM) also increases hydrogen sulfide (H₂S) production in, and adhesion, migration, and proliferation of, HUVECs.⁵ It reduces end diastolic pressure and lactate dehydrogenase (LDH) release in a Langendorff isolated perfused rat heart model of ischemia-reperfusion injury when used at a concentration of 400 μM.²

References

1. DeForrest, J.M., Waldron, T.L., Krapcho, J., *et al.* Preclinical pharmacology of zofenopril, an inhibitor of angiotensin I converting enzyme. *J. Cardiovasc. Pharmacol.* **13**(6), 887-894 (1989).
2. Grover, G.J., Sleph, P.G., Dzwonczyk, S., *et al.* Effects of different angiotensin-converting enzyme (ACE) inhibitors on ischemic isolated rat hearts: Relationship between cardiac ACE inhibition and cardioprotection. *J. Pharmacol. Exp. Ther.* **257**(3), 919-929 (1991).
3. Desideri, G., Grassi, D., Croce, G., *et al.* Different effects of angiotensin converting enzyme inhibitors on endothelin-1 and nitric oxide balance in human vascular endothelial cells: Evidence of an oxidant-sensitive pathway. *Mediators Inflamm.* **305087** (2008).
4. Monti, M., Terzuoli, E., Ziche, M., *et al.* The sulphhydryl containing ACE inhibitor Zofenoprilat protects coronary endothelium from Doxorubicin-induced apoptosis. *Pharmacol. Res.* **76**, 171-181 (2013).
5. Terzuoli, E., Monti, M., Vellecco, V., *et al.* Characterization of zofenoprilat as an inducer of functional angiogenesis through increased H₂S availability. *Br. J. Pharmacol.* **172**(12), 2961-2973 (2015).

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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