

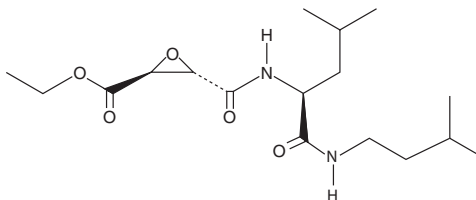
PRODUCT INFORMATION



E-64d

Item No. 13533

CAS Registry No.: 88321-09-9
Formal Name: 3-[[[(1S)-3-methyl-1[[[(3S-methylbutyl)amino]carbonyl]butyl]amino]carbonyl]-2S-oxiranecarboxylic acid, ethyl ester
Synonyms: Aloxistatin, E-64c ethyl ester, EP 453, EST, Loxistatin, NSC 694281
MF: C₁₇H₃₀N₂O₅
FW: 342.4
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

E-64d is supplied as a crystalline solid. A stock solution may be made by dissolving the E-64d in the solvent of choice, which should be purged with an inert gas. E-64d is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of E-64d in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

E-64d is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, E-64d should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. E-64d has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

E-64d is an irreversible, membrane-permeable inhibitor of lysosomal and cytosolic cysteine proteases and has diverse biological activities.¹⁻⁴ It is a synthetic analog of E-64 (Item No. 10007963) and prodrug form of E-64c (Item No. 10007964) that inhibits calpain and the cysteine proteases cathepsins F, -K, -B, -H, and -L.^{1,5} E-64d (20-200 μM) induces cell cycle arrest at the G₂/M phase in A431 human epidermoid carcinoma cells.² It inhibits protease-resistant prion protein accumulation in scrapie-infected neuroblastoma cells with an IC₅₀ value of 0.5 μM.³ E-64d also inhibits entry of vesicular stomatitis virus (VSV) particles pseudotyped with severe acute respiratory syndrome coronavirus (SARS-CoV) or SARS-CoV-2 spike glycoprotein into Vero cells, an effect that is reduced by expression of the serine protease TMPRSS2.⁴

References

1. Wilcox, D. and Mason, R.W. *Biochem. J.* **285**, 495-502 (1992).
2. Shoji, Y., Senshu, M., Iwashita, S., et al. *Proc. Natl. Acad. Sci. USA* **85**, 146-150 (1988).
3. Doh-Ura, K., Iwaki, T., and Caughey, B. *J. Virol.* **74**(10), 4894-4897 (2000).
4. Hoffmann, M., Kleine-Weber, H., Schroeder, S., et al. *Cell* **181**, 1-10 (2020)
5. Roush, W.R., Hernandez, A.A., McKerrow, J.H., et al. *Tetrahedron* **56**, 9747-9762 (2000).

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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