

Product Name: E 64d

Catalog No.: 4545

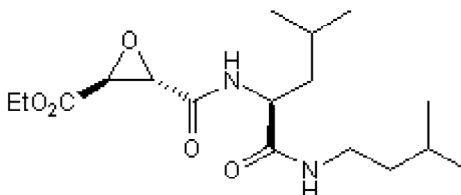
Batch No.: 6

CAS Number: 88321-09-9

IUPAC Name: (2S,3S)-3-[[[(1S)-3-Methyl-1-[[[(3-methylbutyl)amino]carbonyl]butyl]amino]carbonyl]-2-oxiranecarboxylic acid ethyl ester

## 1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C <sub>17</sub> H <sub>30</sub> N <sub>2</sub> O <sub>5</sub>
Batch Molecular Weight:	342.43
Physical Appearance:	White solid
Solubility:	ethanol to 20 mM
Storage:	Store at -20°C
Batch Molecular Structure:	



## 2. ANALYTICAL DATA

HPLC:	Shows 98.0% purity
Mass Spectrum:	Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

E 64d is an inhibitor of cathepsins B and L; also thought to inhibit calpain. Inhibits lysosomal proteases and interferes with autolysosomal digestion when used in combination with pepstatin A (Cat. No. 1190). Lysosome and cell permeable. Also inhibits entry of SARS-Cov-2 (COVID-19) into Caco-2 and Vero cells in combination with Camostat mesylate (Cat.No. 3193) in vitro.

**Physical and Chemical Properties:**

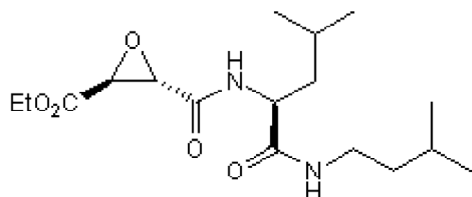
Batch Molecular Formula: C<sub>17</sub>H<sub>30</sub>N<sub>2</sub>O<sub>5</sub>

Batch Molecular Weight: 342.43

Physical Appearance: White solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at -20°C

**Solubility & Usage Info:**

ethanol to 20 mM

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Hoffmann et al** (2020) SARS-CoV-2 cell entry depends on ACE2 and TMPRSS2 and is blocked by a clinically-proven protease inhibitor. *Cell* **181** 271. PMID: 32142651 .

**Kim et al** (2008) Autophagy upregulation by inhibitors of caspase-3 and mTOR enhances radiotherapy in a mouse model of lung cancer. *Autophagy* **4** 659. PMID: 18424912.

**Sato et al** (2007) Autophagy is activated in colorectal cancer cells and contributes to the tolerance to nutrient deprivation. *Cancer Res.* **67** 9677. PMID: 17942897.

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**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

www.tocris.com/distributors

Tel:+1 612 379 2956