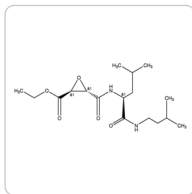


Type in Product Names, Product Numbers, or CAS Numbers to see suggestions.



E8640 ▶ **Sigma-Aldrich.**

E-64d

★★★★★ (0)

protease inhibitor

All Photos (1)

Documents

↓ **SDS**

🔍 **COO/COA**

📄 **Specification Sheet**

More Documents

Synonym(s):

(2S,3S)-*trans*-Epoxy succinyl-L-leucylamido-3-methylbutane ethyl ester, EST

Empirical Formula (Hill Notation):

C₁₇H₃₀N₂O₅

CAS Number:

88321-09-9

Molecular Weight:

342.43

MDL number:

MFCD00132883

PubChem Substance ID:

24894681

NACRES:

NA.77

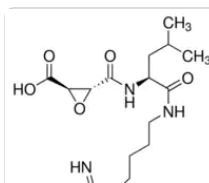
SKU	Pack Size	Availability	Price	Quantity
E8640-250UG	250 µG	Estimated to ship on September 06, 2022	Details... \$125.00	<input type="text" value=""/> - <input type="text" value=""/>
E8640-1MG	1 MG	Estimated to ship on September 06, 2022	Details... \$334.00	<input type="text" value=""/> - <input type="text" value=""/>

[Request a Bulk Order](#)

[Add To Cart](#)

RECOMMENDED PRODUCTS

↑
TOP

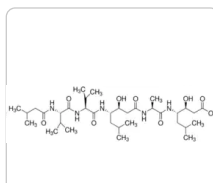


Sigma-Aldrich

E3132

E-64

protease inhibitor



Sigma-Aldrich

P5318

Pepstatin A

microbial, ≥90% (HPLC)

Chat with a Scientist

[View Price and Availability](#)[View Price and Availability](#)[View Price](#)

PROPERTIES

biological source	synthetic (organic)
Quality Level	200
assay	≥98% (TLC)
form	powder
solubility	methanol: water (1:1): 5 mg/mL, clear, colorless
storage temp.	-20°C
SMILES string	<chem>CCOC(=O)[C@H]1O[C@@H]1C(=O)N[C@@H](CC(C)C)C(=O)NCCC(C)C</chem>
InChI	1S/C17H30N2O5 /c1-6-23-17(22)14-13(24-14)16(21)19-12(9-11(4)5)15(20)18-8-7-10(2)3 /h10-14H,6-9H2,1-5H3,(H,18,20)(H,19,21)/t12-,13-,14-/m0/s1
InChI key	SRVFFFJZQVENJC-IHRRRGAJSA-N
Gene Information	human ... CAPN1(823)

DESCRIPTION

Application

E-64d has been used as a lysosomal inhibitor in human acute promyelocytic leukemia NB4 cells and Huh-7 cells. It has also been used as a protease inhibitor in free calcium physiological tyrode solution for perfusion into the isolated heart samples.

Biochem/physiol Actions

E-64d is an epoxysuccinyl peptide and an inhibitor of cysteine protease cathepsin B, calpains 1

[TOP](#)[Chat with a Scientist](#)

and 2. E-64d by its cathepsin B protease inhibition functionality, may serve as a potential drug for treating traumatic brain injury (TBI) and Alzheimer's disease (AD). It inhibits gametocyte surface antigen resulting in a decreased oocyst production in *Plasmodium falciparum*.

SAFETY INFORMATION

Storage Class Code

13 - Non

Combustible Solids

WGK

WGK 2

Flash Point(F)

Not applicable

Flash Point(C)

Not applicable

Personal Protective Equipment

dust mask type N95

(US), [Eyeshields](#),

[Gloves](#)

DOCUMENTATION



 Chat with a Scientist

Certificate of Analysis

Enter Lot Number to search for Certificate of Analysis (COA).

Lot Number

e.g. 023J5431

How to enter Lot Number (COA)

Search

Certificate of Origin

Enter Lot Number to search for Certificate of Origin (COO).

Lot Number

e.g. 023J5431

How to enter Lot Number (COO)

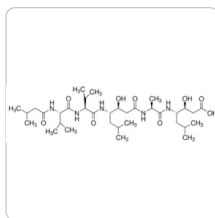
Search

More Documents

[Structure Search](#)

[SDS](#)

CUSTOMERS ALSO VIEWED



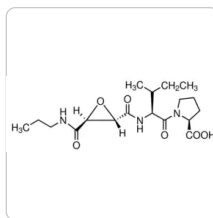
Sigma-Aldrich

P4265

Pepstatin A

microbial, $\geq 75\%$ (HPLC)

[View Price and Availability](#)



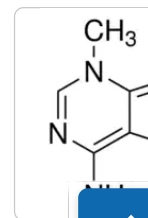
Sigma-Aldrich

C5732

CA-074

$\geq 99\%$ (TLC)

[View Price and Availability](#)

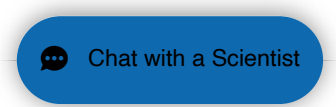


TOP

[View Price](#)

[Chat with a Scientist](#)

FREQUENTLY ASKED QUESTIONS



How does the storage temperature relate to shipping conditions?

The storage conditions that a Sigma-Aldrich catalog and label recommend for products are deliberately conservative. For many products, long-term storage at low temperatures will increase the time during which they are expected to remain in specification and therefore are labeled accordingly. Where short-term storage, shipping time frame, or exposure to conditions other than those recommended for long-term storage will not affect product quality, Sigma-Aldrich will ship at ambient temperature. The products sensitive to short-term exposure to conditions other than their recommended long-term storage are shipped on wet or dry ice. Ambient temperature shipping helps to control shipping costs for our customers. At any time, our customers can request wet- or dry-ice shipment, but the special handling is at customer expense if our product history indicates that the product is stable for regular shipment. See [Shipping and Storage](#) for more information.

Which document(s) contains shelf-life or expiration date information for a given product?

If available for a given product, the recommended re-test date or the expiration date can be found on the Certificate of Analysis.

How do I get lot-specific information or a Certificate of Analysis?

The lot specific COA document can be found by entering the lot number above under the "Documents" section.

How do I find price and availability?

There are several ways to find pricing and availability for our products. Once you log onto our website, you will find the price and availability displayed on the product detail page. You can contact any of our Customer Sales and Service offices to receive a quote. USA customers: 1-800-325-3010 or view [local office numbers](#).

What is the Department of Transportation shipping information for this product?

Transportation information can be found in Section 14 of the product's (M)SDS. To access the shipping information for this material, use the link on the product detail page for the product.

What can I dissolve Product E8640, E-64d, in?

According to McGowan, E. B. et al., Biochem. Biophys. Res. Comm., 158(2), 432-435 (1989), this compound was dissolved in DMSO up to 200 mg/mL for use as an inhibitor of calpain in both intact and lysed platelets..

Where can solutions of Product E8640, E-64d, be stored?

According to McGowan, E. B. et al., Biochem. Biophys. Res. Comm., 158(2), 432-435 (1989), solutions made in DMSO were stored at -70°C.

What is the difference between E-64, E-64c and E-64d?

E-64c is a synthetic analog of E-64. E-64d is the ethyl ester of E-64c. E-64c is not cell permeable, but E-64d is cell permeable. E-64d is hydrolyzed in cell culture to E-64c.

Show More

© 2022 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

Reproduction of any materials from the site is strictly forbidden without permission.

[Site Use Terms](#) | [Privacy Policy](#) | [General Terms and Conditions of Sale](#) | [Copyright Consent](#) | [Cookie Settings](#)

 Chat with a Scientist


TOP

PEER REVIEWED PAPERS

Cathepsin B is a new drug target for traumatic brain injury therapeutics: evidence for E64d as a promising lead drug candidate

Hook G, et al.

Frontiers in Neurology, 6(9), 178-178 (2015)

Inhibition of Plasmodium falciparum oocyst production by membrane-permeant cysteine protease inhibitor E64d

Eksi S, et al.

Antimicrobial Agents and Chemotherapy, 51(3), 1064-1070 (2007)

The cysteine protease inhibitor, E64d, reduces brain amyloid-beta and improves memory deficits in Alzheimer's disease animal models by inhibiting cathepsin B, but not BACE1, beta-secretase activity

Hook G, et al.

Journal of Alzheimer'S Disease, 26(2), 387-408 (2011)

From EST to novel spider silk gene identification for production of spidroin-based biomaterials.

Weidong Huang et al.

Scientific reports, 7(1), 13354-13354 (2017-10-19)

A cDNA library from a pool of all the seven silk glands from a tropical spider species was constructed. More than 1000 expressed sequence tag (EST) clones were created. Almost 65% of the EST clones were identified and around 50%

Evolutionary characteristics of intergenic transcribed regions indicate rare novel genes and widespread noisy transcription in the Poaceae.

John P Lloyd et al.

Scientific reports, 9(1), 12122-12122 (2019-08-23)

Extensive transcriptional activity occurring in intergenic regions of genomes has raised the question whether intergenic transcription represents the activity of novel genes or noisy expression. To address this, we evaluated cross-species and post-duplication sequence and expression conservation of intergenic transcribed

[View All Related Papers](#)



Reviews

 [Chat with a Scientist](#)



[Be the first to write a review](#)

TECHNICAL SERVICE

Our team of scientists has experience in all areas of research including Life Science, Material Science, Chemical Synthesis, Chromatography, Analytical and many others.

[Contact Technical Service](#)



TOP

 [Chat with a Scientist](#)