

Certificate of Analysis

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Product Name: MDL 28170

Catalog No.: 1146

Batch No.: 4

CAS Number: 88191-84-8

IUPAC Name: *N*-[*N*-[(Phenylmethoxy)carbonyl]-*L*-valyl]-phenylalaninal

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂H₂₆N₂O₄ · ¼ H₂O

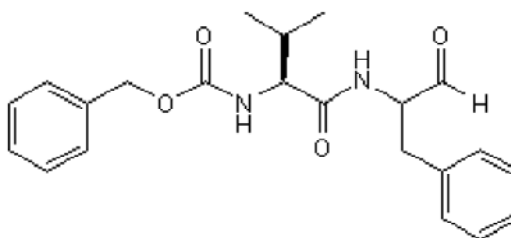
Batch Molecular Weight: 386.95

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 95.7% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	68.29	6.9	7.24
Found	67.98	7.08	7.11

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

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Product Information

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Catalog No.: 1146

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CAS Number: 88191-84-8

IUPAC Name: N-[N-[(Phenylmethoxy)carbonyl]-L-valyl]-phenylalaninal

Description:

Potent, selective inhibitor of calpain and cathepsin B (K_i values are 10 and 25 nM respectively) that does not inhibit trypsin-like serine proteases. Rapidly penetrates the blood-brain barrier following systemic administration and displays neuroprotective effects in vivo.

Physical and Chemical Properties:

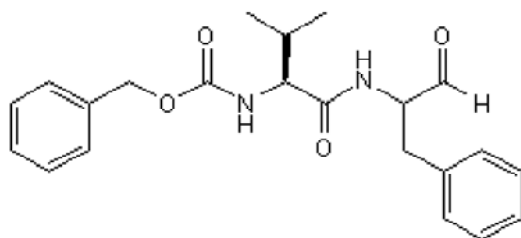
Batch Molecular Formula: $C_{22}H_{26}N_2O_4 \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 386.95

Physical Appearance: White solid

Minimum Purity: >95%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

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. Our standard recommendations are:

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:

Ai et al (2007) Calpain inhibitor MDL-28170 reduces the functional and structural deterioration of corpus callosum following fluid percussion injury. *J.Neurotrauma* **24** 960. PMID: 17600513.

Li et al (1998) Postischemic treatment with a calpain inhibitor MDL 28170 ameliorates brain damage in a gerbil model of global ischemia. *Neurosci.Lett.* **247** 17. PMID: 9637399.

Chen et al (1997) Neuronal recovery after moderate hypoxia is improved by the calpain inhibitor MDL 28170. *Brain Res.* **769** 188. PMID: 9374290.

Mehdi (1991) Cell-penetrating inhibitor of calpain. *TiBS* **16** 150. PMID: 1877091.

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