

Certificate of Analysis

www.tocris.com**Product Name:** Z-VAD-FMK**Catalog No.:** 2163**Batch No.:** 28

CAS Number: 634911-81-2

IUPAC Name: Benzyloxycarbonyl-Val-Ala-Asp(OMe)-fluoromethylketone

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₂₂ H ₃₀ FN ₃ O ₇
Batch Molecular Weight:	467.49
Physical Appearance:	White lyophilised solid
Counter Ion:	Trifluroracetate
Solubility:	Soluble to 9.35 mg/ml in DMSO
Storage:	Store at -20°C
Peptide Sequence:	Z-Val-Ala-DL-Asp(OMe)-FMK

2. ANALYTICAL DATA

HPLC:	Shows 96.7% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

	Amino Acid Theoretical	Actual	Amino Acid Theoretical	Actual
Ala	1.00	1.00	Lys	
Arg			Met	
Asx			Phe	
Cys			Pro	
Glx			Ser	
Gly			Thr	
His			Trp	
Ile			Tyr	
Leu			Val	1.00
				1.00

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

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Product Information

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CAS Number: 634911-81-2

IUPAC Name: Benzyloxycarbonyl-Val-Ala-Asp(OMe)-fluoromethylketone

Description:

Z-VAD-FMK is a cell-permeable, irreversible pan-caspase inhibitor. Inhibits caspase processing and apoptosis induction in tumor cells *in vitro* ($IC_{50} = 0.0015 - 5.8$ mM). Active *in vivo*.

Physical and Chemical Properties:Batch Molecular Formula: $C_{22}H_{30}FN_3O_7$

Batch Molecular Weight: 467.49

Physical Appearance: White lyophilised solid

Peptide Sequence:

Z-Val-Ala-DL-Asp(OMe)-FMK

Storage: Store at -20°C**Solubility & Usage Info:**

Soluble to 9.35 mg/ml in DMSO

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.

Counter Ion: Trifluroracetate**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).

Peptides in solution are much less stable than in lyophilized form. This is especially true for peptides whose sequences contain amino acids such as Cys, Met, Trp, Asn, Gln, and N-terminal Glu.

Therefore we recommend storing peptides in solution for as short a time as possible. Avoid repeated freeze thaw cycles by dividing the peptide solution into aliquots and storing the aliquots at -20°C. Any portion of an aliquot unused after thawing should be discarded.

Peptides stored in solution can occasionally be susceptible to bacterial degradation. We recommend using sterile solutions or passing the peptide solution through a 0.2 µm filter to remove potential bacterial contamination whenever possible.

References:

Garcia-Calvo et al (1998) Inhibition of human caspases by peptide-based and macromolecular inhibitors. *J.Biol.Chem.* **273** 32608. PMID: 9829999.

King et al (1998) Processing/activation of caspases, -3 and -7 and -8 but not caspase-2, in the induction of apoptosis in B-chronic lymphocytic leukemia cells. *Leukemia* **12** 1553. PMID: 9766499.

Kunstle et al (1997) ICE-protease inhibitors block murine liver injury and apoptosis caused by CD95 or by TNF-α. *Immunol.Lett.* **55** 5. PMID: 9093874.

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