

**Z-Val-Ala-Asp (OMe)-FMK Inhibitor**

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**Catalog No.:** NBP2-29392; 1 mg  
NBP2-29392; 5 mg**Sequence:** Z-Val-Ala-Asp(OMe)-FMK  
Z-VAD(OMe)-FMK**Formula:** C<sub>22</sub>H<sub>30</sub>N<sub>3</sub>O<sub>7</sub>F**Molecular Weight:** 467**Storage:** The solid product is stable in the dessicator at room temperature for 1 year. However, we recommend storing dessicated at -20°C.**Form:** White Solid**Analytical Data:****Mass Spec:** M+1=468.2**Chromatography:** TLC:EtOAc:80, Hex: 20, Single Spot, Rf:0.3, Single spot>95%**H NMR:** All functional groups are present**HPLC:** >90%**Peptide content:** 81%

**SOLUBILITY:** Make a stock solution of 20 mM in high purity DMSO (>99.9%). The stock solution is stable at -20°C for 6-8 months. Avoid repeated freeze/thaw cycles of the stock solution. For multiple uses, we suggest aliquoting the stock solution prior to freezing. Bring the solution to room temperature before opening the vial cap.

**Background**

Members of the caspase family play key roles in apoptosis and inflammation. Z-VAD(OMe)-FMK is a cell-permeable pan caspase peptide inhibitor that irreversibly binds to the catalytic site of caspases proteases, and inhibits caspase-mediated apoptosis by preventing the processing of pro-caspases to their active forms (reviewed in 1-3). The Z-VAD(OMe) peptide is O-methylated in the P1 position providing enhanced stability and increased cell permeability. Z-VAD(OMe)-FMK (Z-VAD-FMK) is typically used in assays to inhibit apoptosis. Z-VAD-FMK has been used in many different types of apoptosis assays and published extensively; for example, a PubMed search reveals over 1000 references citing Z-VAD-FMK between 1999 and 2003. Users may want to consult the literature for additional information regarding applications for Z-VAD-FMK.

Thornberry, N.A., and Lazebnik, Y. 1998. *Science* 281:1312-1316

Gregoli, P.A., and M.C. Bondurant. 1999. *J. Cell Pysiol.* 178:133-143.

Schrantz, N., D.A. Blanchard, M.T. Auffredou, S. Sharma, G. Leca, and A. Vazquez. 1999. *Oncogene* 18:3511-3519.

## Z-Val-Ala-Asp (OMe)-FMK Inhibitor (Cat.# NBP2-29392)

### Assay Method for the Z-VAD(OMe)-FMK Inhibitor

#### Materials:

Dissolve 1mg of Z-Val-Ala-Asp(OMe)-FMK in DMSO to get appropriate concentration:

107  $\mu$ l DMSO = 20mM

214  $\mu$ l DMSO = 10 mM

428  $\mu$ l DMSO = 5 mM

#### Method:

Add 2  $\mu$ l of above stock solutions to 1 ml of culture medium containing cells to give final DMSO concentration of 0.2%. Levels of DMSO above this may cause some cellular toxicity thus masking the effect of the ICE-protease inhibitors.

**Note:** This inhibitor is designed as a methyl ester to facilitate cell permeability. If the intended use is on purified or recombinant enzymes, esterase should be added to generate the free carboxyl groups. Please contact us for more details.