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Z-FA-FMK: Caspase Inhibitor Negative Control

Catalog No.: **NBP2-29384, 3 mg**

NBP2-29384, 5 mg

Sequence: **Z-Phe-Ala-FMK**

Z-FA-FMK

Molecular Weight: 386

Storage: Key cool and dry. 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=387.0
Chromatography: TLC:EtOAc: 4, Hex: 6, Single Spot, Rf:0.4
H NMR: All functional groups are present

Solubility: Make a stock solution of 10 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.

Description:
Z-FA-FMK is an inhibitor of cathepsins B and L. Z-FA-FMK is designed for *in vitro* use as a cell permeable control for the effects of fluormethyl-ketone derivatives (FMKs) on caspase activity; it has been used as a negative control for FMK based inhibitors of caspases in a various studies (1-4).

References:

1. Sillence, D.J. and D. Allan. 1997. Biochem. J. 324:29
2. Gottron, F.J. et al. 1997. Mol. Cell. Neurosci. 9:159.
3. McColl, K.S. et al. 1998. Mol. Cell. Endocrinol. 139:229
4. Gregoli, P.A. and M.C. Bondurant. 1999. J. Cell Physiol. 178:133.

Assay Method for using Z-FA-FMK as a Negative Control for Caspase Inhibitors

Materials:

Dissolve 1mg of in 259 µl DMSO for a 10 mM solution.

Method:

Add 2 µl of 10 mM stock solution in 1 ml of culture medium = 20 µM final Z-FA-FMK concentration and 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.

Caspase FMK inhibitors such as Z-VAD-FMK. BOC-D-FMK, Z-DEVD-FMK, Z-IETD-FMK, and Z-LEHD-FMK are generally used in tissue culture to inhibit apoptosis at final working concentrations of 50 nM -100 µM. Optimal concentrations may vary due to cell type, method of apoptosis induction, and length of culture. Each investigator should determine the most effective inhibitor concentration for their particular assay. The Z-FA-FMK negative control inhibitor should then be used at the same concentration as the caspase inhibitor.