



PRODUCT DATA SHEET

Product: Z-VAD-FMK (Pan-Caspase Inhibitor)

Cat. No.: AB-001 (5 mg)

Chemical Name:

Z-Val-Ala-Asp(OMe)-CH₂F

Formula:

C₂₂H₃₀N₃O₇F

Molecular Weight:

467

Form:

White solid

Description:

Peptide-fluoromethyl ketone inhibitor of caspases.

The FMK (fluoromethyl ketone, CH₂F) inhibitor has several advantages over other types of derivatives: Penetrates cell membranes, Not toxic to cells, Irreversible inhibition.

Purity:

>90% by HPLC

Specificity:

Broad-spectrum caspase inhibitor.

Protocol:

Dissolve the caspase inhibitor in high purity DMSO (>99.9%) before use to make a stock solution of 20 mM.

For use on intact cells:

1. Prepare desired concentrated stock solutions as follows:
1 mg Z-VAD-FMK
in 107 µL DMSO = 20 mM
in 214 µL DMSO = 10 mM
in 428 µL DMSO = 5 mM, etc.

2. Add 2 µL of above stock solutions to 1 mL of culture medium containing cells to give a 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. Adding 2 µL of a 10 mM stock solution to 1 mL of culture medium gives a final Z-VAD-FMK concentration of 20 µM.

For extended use *in vivo* or *in vitro*:

For experiments extending 12 to 48 hours, fresh inhibitor may have to be added (injected) due to inactivation of the inhibitor by endogenous cysteine proteases.

IMPORTANT NOTE for *in vitro* use: Our peptide inhibitors are synthesized as methyl esters to enhance cell permeability. In intact cells, the methyl groups are removed by endogenous enzymes. For *in vitro* experiments with purified enzymes, however, the methyl groups must first be removed by treating the inhibitor with esterase. A procedure is available upon request.

Storage:

Z-VAD-FMK has a shelf-life of up to 1 year if stored desiccated at room temperature. However, for long term storage, desiccated at -20°C is recommended. DMSO stock solutions have a shelf-life of 6-8 months at -20°C if care is taken by choosing DMSO with maximum dryness (>99.9%). Keep sealed after removing from the freezer until the temperature of the vial equilibrates with room temperature.

Limitations:

For research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.