



PRODUCT DATA SHEET

Product: Mu-F-HPh-FMK (Calpain Inhibitor 2)

Cat. No.: AB-051 (5 mg)

Chemical Name:

Mu-Phe-HPh-CH₂F

Molecular Weight:

455

Formula:

C₂₅H₃₀O₄N₃F

Description:

Peptide-fluoromethyl ketone inhibitor 2 of calpains I and II and cathepsin L.

The FMK (fluoromethyl ketone, CH₂F) inhibitor has several advantages over other types of derivatives: penetrates cell membranes, is non-toxic to cells, irreversible inhibition.

Specificity:

Specific inhibition of calpains I and II. Also inhibits cathepsin L.

Form:

White solid.

Solubility:

Soluble in DMSO.

Applications:

It can be used for the inhibition of calpain activity *in vitro*. In animal studies, the inhibitor can be used *in vivo*.

Protocol:

Dissolve the inhibitor at 20 mM in high purity (>99.9%) DMSO before use.

For use on intact cells:

1. Prepare desired concentrated stock solutions as follows:

- 5 mg Mu-F-HPh-FMK
 - in 550 μ L DMSO = 20 mM
 - in 1,100 μ L DMSO = 10 mM
 - in 2,200 μ L DMSO = 5 mM, etc,

2. Adding 2 μ L of a 10 mM stock solution to 1 mL of culture medium gives a final Mu-F-HPh-FMK concentration of 20 μ M.

Note: Levels of DMSO above 0.2% may cause some cellular toxicity in culture medium, thus masking the effect of the protease inhibitor.

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

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.

Storage:

The inhibitor is stable for greater than 3 years if stored desiccated at -20°C. DMSO stock solutions have a shelf-life of 6 - 8 months if stored at -20°C. 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.