

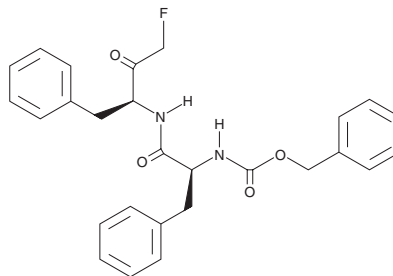
# PRODUCT INFORMATION



## Z-FF-FMK

Item No. 41026

**CAS Registry No.:** 105608-85-3  
**Formal Name:** N-[(1S)-2-[[[(1S)-3-fluoro-2-oxo-1-(phenylmethyl)propyl]amino]-2-oxo-1-(phenylmethyl)ethyl]-carbamic acid, phenylmethyl ester  
**Synonyms:** Z-FF-Fluoromethyl Ketone, Z-Phe-Phe-CH<sub>2</sub>F  
**MF:** C<sub>27</sub>H<sub>27</sub>FN<sub>2</sub>O<sub>4</sub>  
**FW:** 462.5  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Z-FF-FMK is supplied as a solid. A stock solution may be made by dissolving the Z-FF-FMK in the solvent of choice, which should be purged with an inert gas. Z-FF-FMK is soluble (≥10 mg/ml) in DMSO.

### Description

Z-FF-FMK is an inhibitor of cathepsin B ( $K_i = 2.7$  nM).<sup>1</sup> It inhibits cell division, cell cycle progression, DNA replication, and chromosome decondensation in isolated *T. niger* fertilized embryos when used at a concentration of 100  $\mu$ M.<sup>2</sup> Z-FF-FMK (10  $\mu$ M) prevents increases in cathepsin L activity induced by amyloid- $\beta$  (1-40) (A $\beta$ 40), as well as prevents A $\beta$ 40-induced apoptosis, DNA fragmentation, and increases in cleaved poly(ADP-ribose) polymerase (PARP) levels, in primary rat cortical neurons.<sup>3</sup> *In vivo*, Z-FF-FMK (5 nmol/animal) inhibits quinolinic acid-induced nuclear translocation of NF- $\kappa$ B, as well as inhibits quinolinic acid-induced increases in phosphorylated I $\kappa$ B $\alpha$  and IKK $\alpha$  levels, in the unilateral striatum in rats.<sup>4</sup>

### References

1. Shoji, A., Suenaga, Y., Hosaka, A., *et al.* Inhibitory assay for degradation of collagen IV by cathepsin B with a surface plasmon resonance sensor. *J. Pharm. Biomed. Anal.* **145**, 79-83 (2017).
2. Morin, V., Sanchez, A., Quiñones, K., *et al.* Cathepsin L inhibitor I blocks mitotic chromosomes decondensation during cleavage cell cycles of sea urchin embryos. *J. Cell. Physiol.* **216**(3), 790-795 (2008).
3. Boland, B. and Campbell, V. Abeta-mediated activation of the apoptotic cascade in cultured cortical neurones: A role for cathepsin-L. *Neurobiol. Aging* **25**(1), 83-91 (2004).
4. Wang, Y.R., Qin, S., Han, R., *et al.* Cathepsin L plays a role in quinolinic acid-induced NF-Kb activation and excitotoxicity in rat striatal neurons. *PLoS One* **8**(9), e75702 (2013).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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