

## Technical Data Sheet

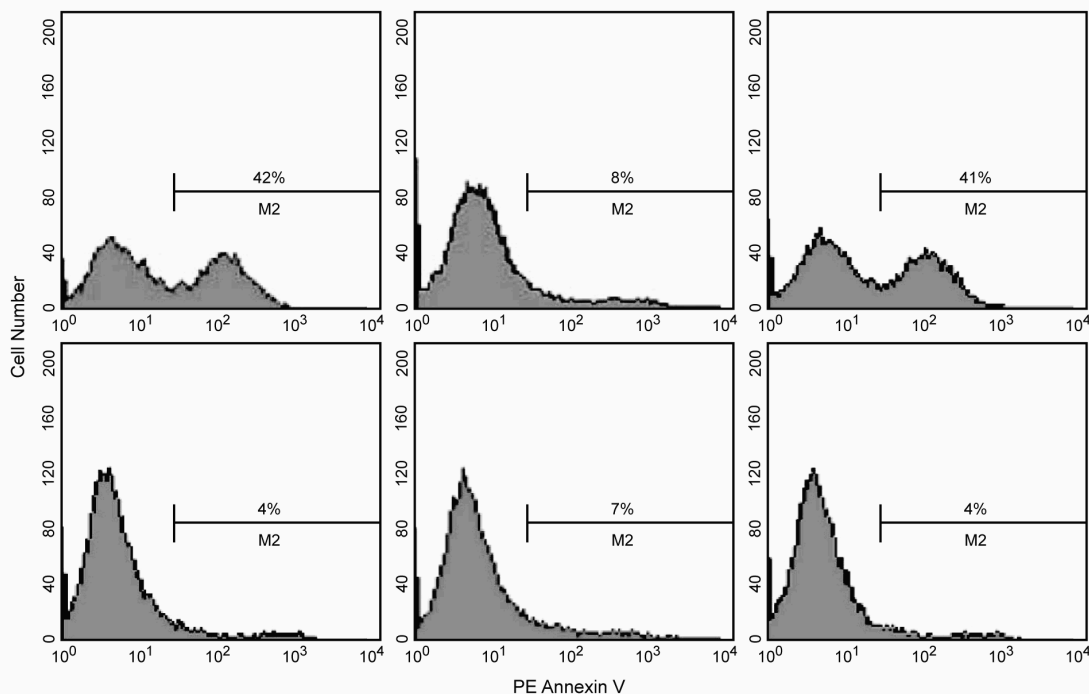
## Z-DEVD-FMK, Caspase-3 Inhibitor

## Product Information

**Material Number:** 550378  
**Size:** 1.0 mg  
**Storage Buffer:** Lyophilized in dimethyl sulfoxide (DMSO).

## Description

Members of the caspase family play key roles in inflammation and mammalian apoptosis. Z-DEVD-FMK is an irreversible and cell permeable inhibitor of caspase-3. The peptide is O-methylated in the P1 position on aspartic acid providing enhanced stability and increased cell permeability. This inhibitor can be used to inhibit caspase-3 activity and to study events downstream of caspase-3 activation. Z-DEVD-FMK has a molecular weight of 668 Daltons.



**Flow cytometric analysis of apoptosis in Jurkat cells (Human T-cell leukemia; ATCC TIB-152).** Jurkat cells were preincubated with the following: no inhibitor (upper left and bottom left panels), 20 μM Z-DEVD-FMK (upper center and bottom center panels) or 20 μM of a negative control inhibitor Z-FA-FMK (upper right and bottom right panels) for 30 minutes, and then either left untreated (bottom row) or treated with 4 μM of camptothecin for 3 hr (top row). Following incubation, cells were collected and stained with PE Annexin V (Cat. No. 559763) to identify cells undergoing apoptosis. The results indicate that in camptothecin treated cells, approximately 42% of the cells were induced to undergo apoptosis and the use of the caspase-3 inhibitor Z-DEVD-FMK reduced the level of apoptosis to that observed in untreated controls. Cells treated with Z-FA-FMK (Cat. No. 550411) showed similar results to the treated cells without inhibitor, indicating that the control inhibitor did not attenuate apoptosis.

## Preparation and Storage

Avoid multiple freeze-thaws of product.

Store the lyophilized Z-DEVD-FMK inhibitor at -20°C. Reconstitute the Z-DEVD-FMK inhibitor in DMSO before use. The reconstituted Z-DEVD-FMK inhibitor may be stored in small aliquots at -20°C.

## Application Notes

## Application

Flow cytometry

Routinely Tested

## Recommended Assay Procedure:

The Z-DEVD-FMK inhibitor is designed to be used in both *in vivo* and *in vitro* cell based assays to measure the inhibition of apoptosis. Reconstitute 1.0 mg of Z-DEVD-FMK inhibitor in DMSO. A 10 mM stock solution may be made by dissolving 1.0 mg of Z-DEVD-FMK in

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150 µl DMSO. The final concentration of inhibitor may vary between experimental systems and investigators are encouraged to titrate the inhibitor for optimal performance. As a precautionary note, do not exceed a final DMSO concentration of 0.2% as higher levels may cause cellular toxicity and mask the effect of the caspase inhibitor.

### Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
559763	PE Annexin V Apoptosis Detection Kit I	100 tests	(none)
550411	Z-FA-FMK, Negative Control for Caspase Inhibitors	1.0 mg	(none)

### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharmlingen/protocols](http://www.bdbiosciences.com/pharmlingen/protocols) for technical protocols.

### References

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Thornberry NA, Lazebnik Y. Caspases: enemies within. *Science.* 1998; 281(5381):1312-1316.(Biology)