Z-DEVD-FMK, Caspase-3 Inhibitor

Product Information

Material Number: 550378
Size: 1 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 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

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>559763</td>
<td>PE Annexin V Apoptosis Detection Kit I</td>
<td>100 Tests</td>
<td>(none)</td>
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<tr>
<td>550411</td>
<td>Z-FA-FMK, Negative Control for Caspase Inhibitors</td>
<td>1 mg</td>
<td>(none)</td>
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</tbody>
</table>

### Product Notices
1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.

### References

