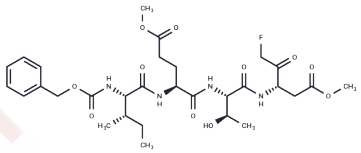
# Data Sheet (Cat.No.T7019)

TargetMol

## Z-IETD-FMK

### Chemical Properties



CAS No. : 210344-98-2

Formula: C30H43FN4O11

Molecular Weight: 654.68

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

### Biological Description

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| Description | Z-IETD-FMK (Z-IE(OMe)TD(OMe)-FMK) is a cell-permeable, selective inhibitor of caspase 8. |
| Targets(IC50) | Caspase |
| In vitro | Z-IETD-FMK, which inhibits the cleavage of caspase-8 and partially inhibits the cleavage of caspase-3 and PARP, prevents the execution of apoptosis in retinal cells exposed to different apoptotic stimuli. [1] Z-IETD-FMK (50 μM) reduces ceramide-induced cardiomyocyte death and significantly inhibits the activation of caspase 3. [2] Inhibition of caspase-8 by Z-IETD-FMK affects the generation of activated/memory T cells and T cell cytokine production, and decreases NF-kappaB responses to TCR:CD3 engagement in T cell cultures. [3] |
| In vivo | In vivo, inhibition of caspase-8 by Z-IETD-FMK reduces memory/activated CD4 and CD8 T cells, and increases susceptibility to T. cruzi infection. [3] Z-IETD-FMK promotes neuronal survival and regeneration of injured retinal ganglion cells after CNS injuries. [4] |
| Kinase Assay | Proteasome assay: Exponentially growing cells on a 96-well clustered plate are treated with different concentrations of drugs or left untreated (control) for 6 hours. Proteasomes extracted with 0.5% NP40 buffer are mixed with equal amounts of samples in 100 μL total volume, and then incubated with 25 μmol/L of fluorogenic substrates (LRR- specific for trypsin-like activity, LLE-specific for caspase-like activity, and SUVY-specific for chymotrypsin-like activity) in black-bottom 96-well plates at 37°C. Fluorescence is monitored every 5 minutes at the wavelength of 360 nm (excitation) and 480 nm (emission). |

### Solubility Information

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| Solubility | Ethanol: < 1 mg/mL (insoluble or slightly soluble),<br>H2O: < 1 mg/mL (insoluble or slightly soluble),<br>DMSO: 240 mg/mL (366.59 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (7.64 mM),Sonication is recommended.<br>*Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.* |

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| In vivo Formulation | *Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.* |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 1.5275 mL | 7.6373 mL | 15.2746 mL |
| 5 mM | 0.3055 mL | 1.5275 mL | 3.0549 mL |
| 10 mM | 0.1527 mL | 0.7637 mL | 1.5275 mL |
| 50 mM | 0.0305 mL | 0.1527 mL | 0.3055 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Tezel G, et al. Invest Ophthalmol Vis Sci. 1999, 40(11), 2660-2667.
Liu X, Song X, Luan D, et al. Real-time in situ Visualizing the Sequential Activation of Caspase Cascade Using a Multi-color Au-Se Bonding Fluorescent Nanoprobe. Analytical Chemistry. 2019, 91(9): 5994-6002
Hussain M, Lu Y, Tariq M, et al. A small-molecule Skp1 inhibitor elicits cell death by p53-dependent mechanism. Iscience. 2022, 25(7): 104591.
Wang J, et al. J Card Fail. 2000, 6(3), 243-249.
Silva EM, et al. J Immunol. 2005, 174(10), 6314-6321.
Shen C H, Wang S C, Lee K M, et al.The Potential Synergistic Effect of Combining Doxorubicin with Vorinostat in Urothelial Carcinoma Therapy.Heliyon.2025
Monnier PP, et al. J Neurosci. 2011, 31(29), 10494-10505.
Liu X, Song X, Luan D, et al. Real-time in situ Visualizing the Sequential Activation of Caspase Cascade Using a Multi-color Au-Se Bonding Fluorescent Nanoprobe[J]. Analytical chemistry. 2019 May 7;91(9):5994-6002.