Z-IETD-FMK

Catalog number: 13305
Unit size: 1 mg

Product Details

Storage Conditions	Freeze (<-15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid
Soluble In	DMSO

Applications

Z-IETD-FMK is a cell-permeable, irreversible caspase-8 inhibitor. It is widely used in cell apoptosis studies. Caspase-8 is a member of the cysteine proteases, which are implicated in apoptosis and cytokine processing. Like all caspases, caspase-8 is synthesized as an inactive single polypeptide chain zymogen procaspase and is activated by proteolytic cleavage, through either autoactivation after recruitment into a multimeric complex or trans-cleavage by other caspases. Thus, ligand binding-induced trimerization of death receptors results in recruitment of the receptor-specific adapter protein Fas-associated death domain (FADD), which then recruits caspase-8. Activated caspase-8 is known to propagate the apoptotic signal either by directly cleaving and activating downstream caspases or by cleaving the BH3 Bcl2-interacting protein, which leads to the release of cytochrome c from mitochondria, triggering activation of caspase-9 in a complex with dATP and Apaf-1. Activated caspase-9 then activates further "downstream caspases," including caspase-8. Knockout data indicate that caspase-8 is required for killing induced by the death receptors Fas, tumor necrosis factor receptor 1, and death receptor 3. Moreover, caspase-8-/- mice die in utero as a result of defective development of heart muscle and display fewer hematopoietic progenitor cells, suggesting that the FADD/caspase-8 pathway is absolutely required for growth and development of specific cell types.