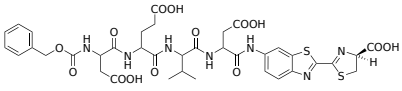
Z-DEVD-aminoluciferin

Catalog Number: 13211
Unit Size: 1 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	24 months upon receiving

Chemical Properties

Appearance	Solid yellow
Molecular Weight	871.89
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	362 nm
Emission Wavelength	499 nm

Applications

Z-DEVD-aminoluciferin is a luminogenic substrate that measures caspase-3 and -7 activities in apoptotic cells. Caspases, a family of aspartate-specific cysteine proteases, are key regulators of apoptosis, orchestrating the initiation and execution of cellular disassembly through the cleavage of specific cellular proteins. Notably, caspases-3 and -7, target the DEVD motif in poly(ADP-ribose) polymerase (PARP), disrupting the repair capabilities of PARP and facilitating DNA fragmentation, a hallmark of apoptosis. When caspase-3/7 enzymes cleave the Z-DEVD-aminoluciferin substrate, it releases aminoluciferin, which can react with luciferase to produce bioluminescence. The intensity of the bioluminescent signal is directly proportional to the amount of caspase-3/7 activity in the sample, making it a valuable tool for researchers to study and quantify apoptotic processes, screen potential drug candidates, and investigate various cellular pathways related to cell death and survival. Z-DEVD-aminoluciferin is a modified version of the Ac-DEVD-aminoluciferin substrate in that it employs Z (carbobenzoxy or benzyloxycarbonyl) as the protective group in place of acetyl.