

Z-VDVAD-aminoluciferin

Catalog Number: 13215

Unit Size: 1 mg

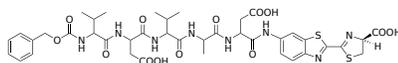
Product Details

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

Chemical Properties

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|------------------|--------|
| Appearance | Solid |
| Molecular Weight | 912.99 |
| Soluble In | DMSO |

Chemical Structure



Spectral Properties

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|-----------------------|--------|
| Excitation Wavelength | 362 nm |
| Emission Wavelength | 499 nm |

Applications

Z-VDVAD-aminoluciferin is a luminogenic substrate that measures caspase-2 activity 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. The pentapeptide sequence VDVAD in this substrate is specific for protease cleavage by caspase-2. Following caspase-2 activation, the VDVAD peptide is cleaved just after the second aspartic acid residue (D), releasing aminoluciferin, which serves as a luminescent substrate for the luciferase reaction. The intensity of the bioluminescent signal is directly proportional to the amount of caspase-2 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.