

## Ac-DEVD-aminoluciferin

Catalog Number: 13210

Unit Size: 1 mg

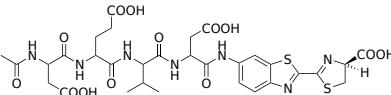
### Product Details

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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 light yellow
Molecular Weight	779.79
Soluble In	DMSO
Chemical Structure	 The chemical structure shows a dipeptide substrate (Ac-DEVD) linked to a luciferin moiety. The substrate consists of an acetyl group (Ac) attached to the N-terminus of a dipeptide. The dipeptide has a D-arginine residue (Arg-D) at the N-terminus and a D-leucine residue (Leu-D) at the C-terminus. The C-terminus of the dipeptide is linked to the 3-position of a 2,3-dihydro-1H-indole-1,5-dione luciferin core. The luciferin core has a carboxylic acid group at the 7-position.

### Spectral Properties

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Excitation Wavelength	362 nm
Emission Wavelength	499 nm

### Applications

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Ac-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 Ac-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.