Small Molecules

Ac-DEVD-CHO

Inhibits caspase-3 and -7

Catalog #100-0536	1 mg
100-0537	5 mg

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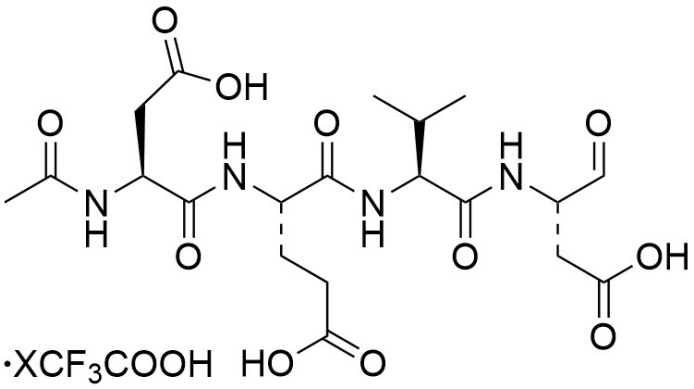
Product Description

Ac-DEVD-CHO is a synthetic peptide aldehyde with the PARP cleavage site DEVD, which is recognized by caspases (Nicholson et al.). Ac-DEVD-CHO blocks PARP cleavage activity and inhibits caspase-3 (K_i = 0.23 nM) and caspase-7 (K_i = 1.6 nM) in a reversible manner (Garcia-Calvo et al.; Talanian et al.). This inhibition is via the aldehyde group's interaction with the active site cysteine of these caspases (Thornberry et al.). Caspase inhibitors are used to investigate caspase activation and apoptosis. This product is supplied as the trifluoroacetate salt of the molecule.

Molecular Name:	Ac-DEVD-CHO (Trifluoroacetate Salt)
Alternative Names:	N-Ac-Asp-Glu-Val-Asp-CHO
CAS Number:	Not applicable
Chemical Formula:	$C_{20}H_{30}N_4O_{11} \bullet XCF_3COOH$
Molecular Weight:	502.5 g/mol
Purity:	≥ 95%
Chemical Name:	N-acetyl-L-α-aspartyl-L-α-glutamyl-N-(2-carboxyl-1-formylethyl)-L-valinamide, 2,2,2-trifluoroacetate
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	• PBS (pH 7.2) ≤ 19 mM • DMSO ≤ 45 mM • Absolute ethanol ≤ 55 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 199 µL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Published Applications

CANCER RESEARCH
· Blocks camptothecin-induced apoptosis in bone tumor cells (Nicholson et al.).

References

Garcia-Calvo M et al. (1998) Inhibition of human caspases by peptide-based and macromolecular inhibitors. J Biol Chem 273(49): 32608–13.
Nicholson DW et al. (1995) Identification and inhibition of the ICE/CED-3 protease necessary for mammalian apoptosis. Nature 376(6535): 37–43.
Talanian RV et al. (1997) Substrate specificities of caspase family proteases. J Biol Chem 272(15): 9677–82.
Thornberry NA et al. (1995) Interleukin-1β-converting enzyme and related proteases as potential targets in inflammation and apoptosis. Perspect Drug Discov Des 2: 389–99.

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