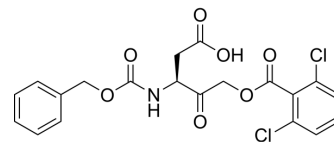


Z-Asp-CH2-DCB

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|--------------------|--|
| Cat. No.: | HY-113953 |
| CAS No.: | 153088-73-4 |
| Molecular Formula: | C ₂₀ H ₁₇ Cl ₂ NO ₇ |
| Molecular Weight: | 454.26 |
| Target: | Caspase; Apoptosis |
| Pathway: | Apoptosis |
| Storage: | -20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |



SOLVENT & SOLUBILITY

| | | | | | |
|---|---|--------------------------|-----------|------------|------------|
| In Vitro | DMSO : 100 mg/mL (220.14 mM; Need ultrasonic) | | | | |
| | | Solvent Concentration | Mass | | |
| | Preparing Stock Solutions | | 1 mg | 5 mg | 10 mg |
| | | 1 mM | 2.2014 mL | 11.0069 mL | 22.0138 mL |
| | | 5 mM | 0.4403 mL | 2.2014 mL | 4.4028 mL |
| | 10 mM | 0.2201 mL | 1.1007 mL | 2.2014 mL | |
| Please refer to the solubility information to select the appropriate solvent. | | | | | |
| In Vivo | 1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (4.58 mM); Clear solution | | | | |
| | 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (4.58 mM); Clear solution | | | | |
| | 3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (4.58 mM); Clear solution | | | | |

BIOLOGICAL ACTIVITY

| | |
|-------------|--|
| Description | Z-Asp-CH2-DCB is an irreversible broad spectrum caspase inhibitor. Z-Asp-CH2-DCB also inhibits proteases with caspase-like activity. Z-D-CH2-DCB blocks the production of IL-1β, TNF-α, IL-6, and IFN-γ in staphylococcal enterotoxin B (SEB)-stimulated peripheral blood mononuclear cells (PBMC), and reduces SEB-1-stimulated T-cell proliferation in a dose-dependent manner. Z-Asp-CH2-DCB prevents SU5416-induced septal cell apoptosis and emphysema development ^{[1][2][3]} . |
| In Vitro | Z-Asp-CH2-DCB (10-100 μM) blocks the production of IL-1β, TNF-α, IL-6, and IFN-γ in SEB-stimulated (200 ng; 16 hours) PBMC in a dose-dependent manner. The production of the chemokines MCP-1, MIP-1α, and MIP-1β was also suppressed. The inhibitory effect of Z-Asp-CH2-DCB on TSST-1-activated PBMC is similar, reducing IL-1β, IL-6, TNF-α, IFN-γ, MCP-1, MIP-1α, and MIP-1β to 10, 36, 25, 10, 11, 25, and 30%, respectively, of levels in untreated cells ^[1] . |

Z-Asp-CH2-DCB (10-100 μ M; 48 hours) inhibits T-cell proliferation in PBMC stimulated with 200 ng of SEB/ml [1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Cell Viability Assay^[1]

| | |
|------------------|---|
| Cell Line: | Human peripheral blood mononuclear cells |
| Concentration: | 10, 50, 100 μ M |
| Incubation Time: | 48 hours |
| Result: | Inhibited T-cell proliferation in PBMC stimulated with SEB. |

In Vivo

Z-Asp-CH2-DCB (1 mg; i.p.; every day for 3 weeks) prevents SU5416-induced septal cell apoptosis^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|-----------------|--|
| Animal Model: | Male Sprague-Dawley rats (SU5416+ Z-Asp-CH2-DCB group) ^[1] |
| Dosage: | 1 mg |
| Administration: | Intraperitoneal injection; every day for 3 weeks |
| Result: | The caspase 3-like activity in SU5416-treated rat lungs is significantly higher, whereas lungs from rats treated with SU5416+Z-Asp-CH2-DCB showed no increase in apoptotic activity. |

REFERENCES

- [1]. Krakauer T, et al. Caspase inhibitors attenuate superantigen-induced inflammatory cytokines, chemokines, and T-cell proliferation. Clin Diagn Lab Immunol. 2004 May;11(3):621-4.
- [2]. Kasahara Y, et al. Inhibition of VEGF receptors causes lung cell apoptosis and emphysema. J Clin Invest. 2000 Dec;106(11):1311-9.
- [3]. Twumasi P, et al. Caspase inhibitors affect the kinetics and dimensions of tracheary elements in xylogenic Zinnia (Zinnia elegans) cell cultures. BMC Plant Biol. 2010 Aug 6;10:162.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA