

## Product Data Sheet

Product Name: Granzyme B Inhibitor Z-AAD-CH2Cl

Cat. No.: GC14443

### Chemical Properties

Cas. No.

Chemical Name (Z)-2-((E)-((benzyloxy)(hydroxy)methylene)amino)-N-((Z)-1-((5-chloro-1-methoxy-1,4-dioxopentan-3-yl)imino)-1-hydroxypropan-2-yl)propanimidic acid

SMILES CC(/N=C(O)/C(/N=C(OCC1=CC=CC=C1)\O)C)/C(O)=N/C(C(CCl)=O)CC(OC)=O

Formula  $C_{20}H_{26}ClN_3O_7$  M.Wt 455.89

Solubility Soluble in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

### Background

Z-AAD-CH2Cl (Z-AAD-CMK) is a cell-permeable and irreversible inhibitor of granzyme B [1].

Granzyme B is an apoptosis-inducing factor that expressed in natural killer (NK) cells, the granules of cytotoxic lymphocytes (CTLs) and cytotoxic T cells, and plays an important role in inducing inflammation and extracellular matrix remodelling [1].

Z-AAD-CH2Cl (Z-AAD-CMK) is a cell-permeable and irreversible granzyme B inhibitor. In human C-28/12 chondrocytes expressed the surface antigens of NK cells, Z-AAD-CMK dose-dependently inhibited chondrocyte cytotoxicity against K562 cells that was dependent on granzyme B [1]. In the oral squamous cell carcinoma cell line OSC-3, Z-AAD-CMK reduced interleukin-2-activated lymphocytes (LAK cell)-enhanced caspase-3 activity to approximately 70% and inhibited DNA fragmentation by approximately 20% of the control. Z-AAD-CMK also inhibited the increase of reactive oxygen intermediates

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

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(ROI) induced by LAK cells to approximately half of the control [2]. In Tc1 cells, Z-AAD-CMK inhibited apoptosis [3].

### References:

- [1]. Saito S, Murakoshi K, Kotake S, et al. Granzyme B induces apoptosis of chondrocytes with natural killer cell-like cytotoxicity in rheumatoid arthritis. *J Rheumatol*, 2008, 35(10): 1932-1943.
- [2]. Yamamoto T, Yoneda K, Ueta E, et al. Enhanced apoptosis of squamous cell carcinoma cells by interleukin-2-activated cytotoxic lymphocytes combined with radiation and anticancer drugs. *Eur J Cancer*, 2000, 36(15): 2007-2017.
- [3]. Gorak-Stolinska P, Truman JP, Kemeny DM, et al. Activation-induced cell death of human T-cell subsets is mediated by Fas and granzyme B but is independent of TNF-alpha. *J Leukoc Biol*, 2001, 70(5): 756-766.

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