### Chemical Properties

**Product Name:** Granzyme B Inhibitor Z-AAD-CH2Cl  
**Cas No.:** 455.89  
**M.Wt:** 455.89  
**Formula:** C20H26ClN3O7  
**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  
**Canonical SMILES:** CC(/N=C(O)/C(/N=C(OCC1=CC=CC=C1)\O)C)/C(O)=N/C(C(CCl)=O)CC(OC)=O  
**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.  
**Shopping Condition:** Evaluation sample solution: ship with blue ice  
All other available size: ship with RT, or blue ice upon request

### Biological Activity

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

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.