PRODUCT DATA SHEET

Product: Z-AAD-CMK (Granzyme B Inhibitor)

Cat. No.: **AB-002 (5 mg)**

Chemical Name:
Z-Ala-Ala-Asp(Ome)-CMK

Molecular Weight:
456

Description:
Peptide-chloromethyl ketone inhibitor of Granzyme B.

The CMK (choromethyl ketone) inhibitor has several advantages over other inhibitors.
-Highly specific
-Inhibits both human and murine Granzyme B
-Irreversible inhibition
-kobs/[I] (second-order inhibition constant) = 2.0 M-1s-1

For use on cell extracts only, not for use on live cells.

Introduction:
Cell-mediated killing by cytotoxic T-lymphocytes (CTLs) is an important immunologic defense against tumor cell proliferation, viral infection, and transplanted tissue. Cell death induced by CTLs is mostly apoptotic and is thought to involve perforin, a pore-forming protein, and the granzymes, a family of serine proteases that are present in the cytoplasmic granules of CTLs and natural killer cells.

Seven serine proteases (Granzymes A, B, C, D, E, F, and G) have been isolated from mouse CTL granules. Two serine proteases (Granzyme A and B) have been isolated from human CTL granules and are homologous to the two murine enzymes.

Granzyme B is the granzyme most specifically found in CTLs and the granzyme shown to cause the most rapid kinetics of cell death. Granzyme B shares an unusual substrate specificity with interleuken-1ß converting enzyme (ICE), another enzyme involved in apoptosis, in that both require an Asp in the P1 position of the recognition sequence.

Applications:
Highly specific inhibition of Granzyme B activity. For Granzyme B fluorometric assays using the Granzyme B Fluorogenic Substrate (Cat. No. AC-002), Granzyme B Inhibitor can be used to assess the contribution of contaminating proteases to the overall rate of proteolysis. **For use on cell extracts only, not for use on live cells.** The -CMK inhibitors are strong alkylating agents, and are very toxic.

Protocol:
Dissolve Granzyme B Inhibitor in DMSO (high purity ≥99.9%) before use.

Storage and Stability:
Store Granzyme B Inhibitor in a desiccator at RT or 4°C. For long term, 4°C is recommended. Granzyme B Inhibitor has a shelf life of up to 1 year if stored in a desiccator at RT. DMSO stock solutions have a shelf life of 6 months if stored at -20°C.

Limitations:
For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:
No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.