



PRODUCT DATA SHEET

Product: Ac-YVAD-CHO (Caspase-1/ICE Inhibitor 2 -CHO)

Cat. No: AB-024 (5 mg)

Chemical Name:

Acetyl-Tyr-Val-Ala-Asp-CHO

Formula:

$C_{23}H_{32}N_4O_8$

Molecular Weight: 492.5

Description:

White solid. Peptide aldehyde inhibitor of caspases.

Introduction:

Interleukin-1 β Converting Enzyme (ICE), also now known as Caspase-1, is a cytoplasmic cysteine protease that cleaves inactive 31 kDa pro-IL-1 β to generate the active 17.5 kDa proinflammatory cytokine IL-1 β , the predominant form of IL-1 produced by human monocytes. This cytokine has been implicated in the pathogenesis of several diseases such as rheumatoid arthritis, inflammatory bowel disease, and septic shock.

Caspase-1/ICE mRNA is found in a variety of cells such as peripheral blood monocytes, peripheral blood lymphocytes, peripheral blood neutrophils, and resting and activated peripheral blood T-lymphocytes. The tissue distribution of Caspase-1/ICE suggests that the enzyme may have other substrates in addition to IL-1 β .

Current hypotheses suggest that Caspase-1/ICE is able to cause apoptosis as well as activate inflammation in animal cells. Experiments have shown that Caspase-1/ICE has sequence homology with other mammalian apoptosis genes and that activation of Caspase-1/ICE or other caspase proteases is required for anti-Fas mAb-induced apoptosis.

Purity: >95% by HPLC

Specificity:

Ac-YVAD-CHO is a reversible inhibitor of caspase-1 and caspase-4 ($K_i=200$ pM for human recombinant caspase-1). It is more selective than Ac-VAD-CHO for caspase-1.

Inhibition of caspases in cell extracts. Ac-YVAD-CHO inhibits anti-Fas induced apoptosis in L929-APO-1 cells. Generally, however, methylated peptide-FMK inhibitors (eg. Caspase-1/ICE Inhibitor 2, Cat No. AB-011) are superior for use on live cells.

Solubility:

Soluble in both DMSO and water.

Protocol:

It is recommended that stock solutions be prepared in high-purity DMSO (>99.9%), and then diluted into aqueous medium. Stock solutions should not be stored.

Storage and Stability:

Store at -20°C, desiccated. Do not store stock solutions. Stable for 6 months when stored as recommended. Stock solutions should be prepared shortly prior to use.

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.