



PRODUCT DATA SHEET

Product: CrmA (Cytokine response modifier A)

Cat. No.: CR-001 (100 µg)

Molecular Weight:

38 kDa

Description:

CrmA (cytokine response modifier A), a cowpox viral serpin, is currently the only natural inhibitor of human interleukin-1 β -converting enzyme (ICE or caspase-1) and granzyme B, enzymes that can induce or play a role in apoptosis. CrmA has also been found to inhibit caspase-3/ CPP32 beta, a mammalian homolog of CED-3/ICE that is believed to cleave the death substrate, poly(ADP-ribose) polymerase, during apoptosis. Expression of the *crmA* gene has been shown to inhibit apoptosis induced by anti-human Fas mAbs and by cytotoxic T-lymphocytes.

Format:

CrmA is provided as 100 µg of purified, active CrmA in 200 µL of 20 mM Hepes buffer with 0.1 M NaCl, pH 7.4.

Production:

CrmA is purified from *E. coli* containing a recombinant *crmA* construct. Coding sequence contains 7 non-native amino acids (which do not affect activity) in addition to the entire coding region of the *crmA* gene.

Purification:

Purified using Ni²⁺ chelates and anion exchange chromatography.

Inhibitory Data:

Inhibition constants for CrmA
caspase-1/ICE: $k_{on} = 1.7 \times 10^7 \text{ M}^{-1} \text{ S}^{-1}$,
 $k_i = < 0.004 \text{ nM}$
granzyme B: $k_{on} = 2.9 \times 10^5 \text{ M}^{-1} \text{ S}^{-1}$,
 $k_i = < 0.1 \text{ nM}$

Applications:

For highest inhibitory activity, we recommend activating CrmA with 2 mM dithiothreitol (DTT) for 5 minutes at room temperature. If granzyme B thiol ester-based substrate assays will be performed, excess DTT can be blocked by the addition of 4 mM NaAsO₂.

Storage and Stability:

Store at -20°C (-85°C is preferable). IMPORTANT: Avoid repeated freeze-thaw cycles. Aliquoting CrmA after the first thaw is recommended.

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.