# Product Information



3050 Spruce Street, Saint Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

**Monoclonal Anti-proCathepsin W**
**Clone CW40-1B1**
produced in mouse, purified immunoglobulin
(tissue culture supernatant)

Catalog Number **C7618**

## Product Description

Monoclonal Anti-proCathepsin W (mouse IgG1 isotype) is derived from the hybridoma CW40-1B1 produced by the fusion of mouse myeloma cells (P3X63Ag8.653) and splenocytes from BALB/c mice immunized with recombinant human proCathepsin W (Gene ID: 1521). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-proCathepsin W specifically recognizes human proCathepsin W.[6] Applications include ELISA, immunoblotting (~43 kDa), [6] and immunocyto-chemistry.[6] The antibody does not cross react with proCathepsin L, B, H, S, and F.

Cathepsins are lysosomal proteases that play an important role in the intracellular degradation of exogenous and endogenous proteins, activation of enzyme precursors, and tumor invasion and metastasis. They are normally localized in lysosomes of almost all mammalian cells, but under certain conditions they can be secreted from the cell.[1-4] Cathepsin W is part of this superfamily and contains all major structural features, such as the positions of the amino acids forming the catalytic triad, and the cleavage site for the signal sequence and the propeptide are in accordance with other members of this protease family. Cathepsin W is expressed at high abundance in peripheral cytotoxic cells whereas other hematopoetic cells such as $CD4^+$ T cells, B cells ($CD19^+$), and monocytes ($CD14^+$) do not express this protein. Cathepsin W was found to be located mainly in the endoplasmic reticulum (ER) and is upregulated by IL-2 in NK cells.[5] Downregulation of the expression of Cathepsin W in NK-92 by antisense to Cathepsin W reduced the cytotoxicity of the cells.[6] Altered expression of Cathepsin W was found to be a risk factor for the extra-pulmonary dissemination of tuberculosis in humans.[7]

## Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide and fetal calf serum.

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

For extended storage, freeze at –20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discard if not used within 12 hours.

## Product Profile

Immunoblotting: a working dilution of 1:500–1:1000 is recommended using total cell extract of Jurkat cells.

**Note**: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

## References

1. Weber, E., et al., *Hybridoma*, **16**, 159-165 (1997).
2. Tolosa, E., et al., *J. Clin. Invest*., **112**, 517-526 (2003).
3. Turk, B., and Stoka, V., *FEBS Lett*., **581**, 2761-2767 (2007).
4. Igdoura, S.A., et al., *J. Histochem. Cytochem*., **43**, 545-557 (1995).
5. Wex, T., et al., *J. Immunol*., **167**, 2172-2178 (2001).
6. Wex, T., et al., *FEBS Lett*., **552**, 115-119 (2003).
7. Kim, D.K., et al., *Respirology*, **11**, 557-565 (2006).

DXP,EK,PHC 12/07-1