

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Cathepsin D in direct ELISAs.                                                                                                                                                                                                                                 |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2B</sub> Clone # 185109                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line, NS0-derived human Cathepsin D protein<br>Leu21-Leu412<br>Accession # P07339.1                                                                                                                                                                      |
| <b>Conjugate</b>          | Alexa Fluor 532<br>Excitation Wavelength: 534 nm<br>Emission Wavelength: 553 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

**ELISA** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Cathepsin D is a lysosomal aspartic protease of the pepsin family (1). Human cathepsin D is synthesized as a precursor protein, consisting of a signal peptide (aa 1-18), a propeptide (aa 19-64), and a mature chain (aa 65-412) (2-4). The mature chain can be processed further to the light (aa 65-161) and heavy (aa 169-412) chains. It is expressed in most cells and overexpressed in breast cancer cells (5). It is a major enzyme in protein degradation in lysosomes, and also involved in the presentation of antigenic peptides. Mice deficient in this enzyme showed a progressive atrophy of the intestinal mucosa, a massive destruction of lymphoid organs, and a profound neuronal ceroid lipofuscinosis, indicating that cathepsin D is essential for proteolysis of proteins regulating cell growth and tissue homeostasis (6). Cathepsin D secreted from human prostate carcinoma cells are responsible for the generation of angiostatin, a potent endogenous inhibitor of angiogenesis (6).

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