

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Cathepsin H in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant mouse Cathepsin H is observed, and less than 1% cross-reactivity with recombinant human Cathepsin L2 is observed.                       |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant human Cathepsin H<br>Ala23-Val335<br>Accession # CAA34734                                                                                                                                                           |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 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.

|                           |                                                                        |
|---------------------------|------------------------------------------------------------------------|
| <b>Knockout Validated</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>       | 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 H (CTSH; also CPSB) is a 28-30 kDa ubiquitously expressed member of the peptidase C1 family of cysteine lysosomal enzymes. Depending upon the isoform, it may either be secreted or retained in the lysosomes. Although this family of enzymes plays a key role in general intracellular molecule degradation, CTSH is also known to participate in other activities. Such activities include the activation of progranzyme B, the late stage processing of pulmonary surfactant protein B, and the cleavage, in endosomes, of TLR3, allowing for subsequent TLR signaling. Human preproCTSH is 335 amino acids (aa) in length. It contains one 22 aa signal peptide, a 75 aa prosequence (aa 23-97), an intervening "mini fragment" (aa 98-105), a second prosequence (aa 106-115), and a 220 aa C-terminal mature region that could be further cleaved after Asn292 into two peptide fragments. CTSH is self-activating. The 40-42 kDa proprecursor (aa 23-335) is cleaved thrice to initially generate a 30 kDa intermediate form, followed by a 28 kDa mature form that is covalently attached to the aforementioned "mini fragment". Further processing at the C-terminus may create a smaller 24-25 kDa mature segment. CTSH is unusual in that it possess both aminopeptidase and endopeptidase activity. While endopeptidase activity is intrinsic to the mature region, aminopeptidase activity requires the presence of a covalently-linked "mini fragment". There is one splice variant that shows a deletion of aa 11-22. Although this occurs within the signal sequence, the molecule is secreted and shows high enzymatic activity. Over aa 23-335, human CTSH shares 84% aa sequence identity with mouse CTSH.

#### PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.