

DESCRIPTION

Species Reactivity	Human
Specificity	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.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Cathepsin H Ala23-Val335 Accession # CAA34734
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

Knockout Validated	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	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.

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