

Product datasheet

Cathepsin L Activity Assay Kit (Fluorometric) ab65306

★★★★★ [1 Abreviews](#) [44 References](#) [3 Images](#)

Overview

Product name	Cathepsin L Activity Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Serum, Plasma, Cell Lysate, Tissue Lysate
Assay type	Enzyme activity
Assay time	2h 00m
Species reactivity	Reacts with: Mammals, Other species
Product overview	Abcam's Cathepsin L Activity Assay Kit is a fluorescence-based assay that utilizes the preferred cathepsin-L substrate sequence FR labeled with AFC (amino-4-trifluoromethyl coumarin). Cell lysates or other samples that contain cathepsin L will cleave the synthetic substrate FR-AFC to release free AFC, which can be measured in a spectrophotometer at $E_m = 505 \text{ nm}$. The amount of free AFC will be directly proportional to the cathepsin L activity found in the sample.

Visit our [FAQs page](#) for tips and troubleshooting.

Notes This product is manufactured by BioVision, an Abcam company and was previously called K142 Cathepsin L Activity Fluorometric Assay Kit. K142-100 is the same size as the 100 test size of ab65306.

Cathepsin L plays a major role in antigen processing, tumor invasion and metastasis, bone resorption, and turnover of intracellular and secreted proteins involved in growth regulation. Although commonly recognized as a lysosomal protease, cathepsin L is also secreted. This broad-spectrum protease is potent in degrading several extracellular proteins (laminins, fibronectin, collagens I and IV, elastin, and other structural proteins of basement membranes) as well as serum proteins and cytoplasmic and nuclear proteins.

Platform Microplate reader

Properties

Storage instructions Store at -20°C . Please refer to protocols.

Components	100 tests
Cathepsin Inhibitor	1 x 20 μl

Components	100 tests
Cathepsin L Positive Control	1 vial
Cathepsin L Substrate	1 x 200µl
DTT II	1 x 100µl
Lysis Buffer VII	1 x 25ml

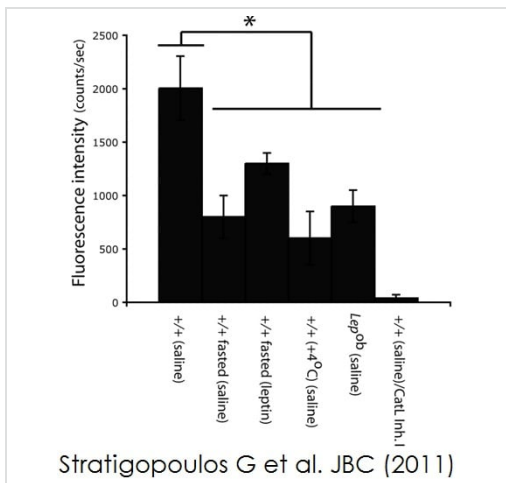
Relevance

Cathepsin L is a lysosomal cysteine proteinase that plays a major role in intracellular protein catabolism. Its substrates include collagen and elastin, as well as alpha 1 protease inhibitor, a major controlling element of neutrophil elastase activity. Cathepsin L has been implicated in several pathologic processes, including rheumatoid arthritis, muscular dystrophy, Alzheimers, cancer, myofibril necrosis in myopathies and in myocardial ischemia, and in the renal tubular response to proteinuria. Cathepsin L, which is a member of the peptidase C1 family, is a dimer composed of disulfide linked heavy and light chains, both produced from a single protein precursor. At least two transcript variants encoding the same protein have been found for its gene.

Cellular localization

Lysosome

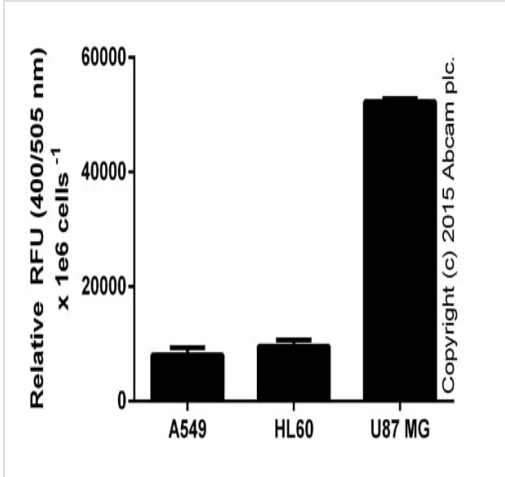
Images



Nuclear Cathepsin L activity measured in the arcuate nucleus of:
Column 1: wt lean mice, saline injected intraperitoneally; *Column 2:* wt fasted mice, saline injected intraperitoneally; *Column 3:* wt fasted mice, leptin injected intraperitoneally (1µg/g total body weight); *Column 4:* wt lean mice, placed in a 4C cold room for 4h; *Column 5:* Lep^{ob} mice, saline injected intraperitoneally; *Column 6:* wt lean mice, leptin and Cathepsin L inhibitor I in corn oil injected intraperitoneally (15µg/g total body weight). *,statiscally significant (p<0.01) *Image obtained from Stratigopoulos G et al; JBC, 2011 Jan 21;286(3):2155-70*

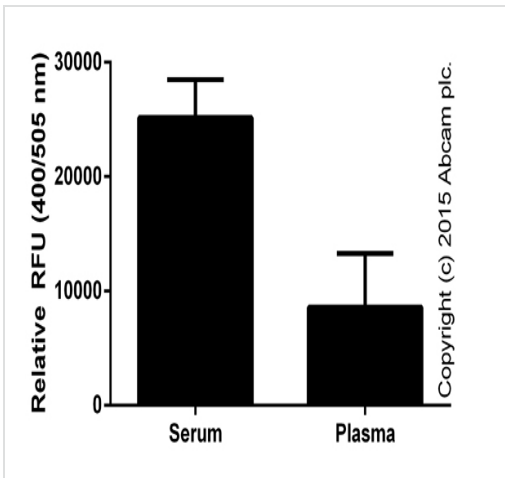
Cathepsin L Activity Assay Kit (Fluorometric)

Image from Stratigopoulos G et al., The Journal of biological chemistry vol., 286,3 (2011): 2155-70. Fig 6(A)., doi:10.1074/jbc.M110.188482.



Cathepsin L activity in cell lysates (duplicates +/- SD). Data from lysates corresponding to 0.5-2 million cells per well.

Functional Assay: ab65306 Cathepsin L Activity Assay Kit (Fluorometric)



Cathepsin L activity in biological fluids (serum in the range of neat-1/27 dilution, plasma neat; duplicates +/- SD)

Functional Assay: ab65306 Cathepsin L Activity Assay Kit (Fluorometric)

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