

## Cathepsin B Detection Kit | Catb-2744 detection kit

Green Cathepsin B Kit

CATALOG #  
**AAA50393**

APPLICATIONS  
**Immunofluorescence, Flow Cytometry, Functional Assay**

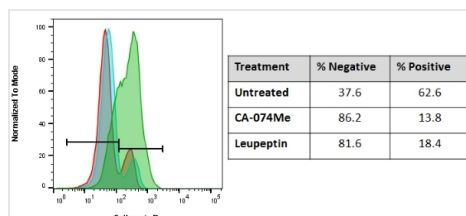
### PRODUCT SYNONYMS

Cathepsin B; Green Cathepsin B Kit; Catb-2744 detection kit

### PRODUCT SPECIFICATIONS

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Form/Format                                         | Rhodamine 110-(RR)2                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Sequence Length                                     | 323                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Applicable Applications for Catb-2744 detection kit | IF (Immunofluorescence), FCM/FACS (Flow Cytometry)                                                                                                                                                                                                                                                                                                                                                                                                      |
| Preparation and Storage                             | <p>MULTIPLE STORAGE CONDITIONS APPLY ON ARRIVAL.</p> <p>Store the unopened kit (and each unopened component) according to the storage instructions on each component label.</p> <p>Store the Rhodamine110-(RR)2 substrate at -20 degree C.</p> <p>Once reconstituted in DMSO, use the Rhodamine110-(RR)2 substrate immediately or aliquot and store at -20 degree C for 6 months, protected from light.</p> <p>Avoid repeated freezing and thawing.</p> |

### IMAGES



#### Application Data

Cathepsin B staining in Jurkat T cells after treatment with inhibitors. Jurkat cells were treated with 10  $\mu$ M CA-074Me for 3 hours (blue histogram), 10  $\mu$ M Leupeptin for 1 hour (red histogram) or were untreated (green histogram). They were then stained for 1 hour with R110-(RR)2. After incubation with the R110-(RR)2 substrate, the samples were analyzed by flow cytometry using a ZE5 Cell Analyzer (488 nm excitation and a 525/35 emission filter). Treatment with CA-074Me or Leupeptin decreased the fluorescence signal detected compared to the untreated control (see table), which displayed a baseline level of cathepsin activity

## ADDITIONAL INFORMATION

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| Related Product Information for Catb-2744 detection kit | <p>Description: Green Cathepsin B Kit enables the quantitation and monitoring of intracellular cathepsin activity over time in vitro. The Rhodamine 110 Cathepsin B substrate reagent is a non-cytotoxic and membrane permeant substrate that fluoresces green upon cleavage by active cathepsin enzymes.</p> <p>Test Principle: Rhodamine 110 Cathepsin B substrate utilizes the photostable green fluorophore, rhodamine 110. Rhodamine 110 cathepsin B substrate is comprised of rhodamine 110 coupled to two copies of the amino acid sequence, arginine-arginine (RR), which is the preferential target sequence for cathepsin B. When bi-substituted via amide linkage to two cathepsin B target peptide sequences, rhodamine110 is nonfluorescent. Following enzymatic cleavage at one or both arginine (R) amide linkage sites, the mono and non-substituted rhodamine 110 fluorophores generate green fluorescence when excited at 500 nm.</p> <p>To use the Green Cathepsin B Assay, simply add the Rhodamine 110 Cathepsin B substrate [R110-(RR)2] directly to the cell culture media (or 1X Cellular Assay Buffer), incubate, and analyze. Because R110-(RR)2 is cell-permeant, it easily penetrates the cell membrane and the membranes of the internal cellular organelles - no lysis or permeabilization steps are required. R110-(RR)2 will enter the cell in a non-fluorescent state. If cathepsin enzymes are active, they will cleave off the two arginine-arginine cathepsin B targeting sequences and allow the rhodamine 110 fluorophore to become fluorescent upon excitation. By varying the duration and concentration of exposure to the R110-(RR)2 substrate, a picture can be obtained of the relative abundance and intracellular location of cathepsin enzymatic activity. Positive cells will fluoresce green, while negative cells will exhibit very low levels of background green fluorescence. There is no interference from pro-cathepsins forms of the enzymes. If the treatment or experimental condition stimulates cathepsin activity, cells containing elevated levels of cathepsin activity will appear brighter green than cells with lower levels of cathepsin activity.</p> |
| Product Categories/Family for Catb-2744 detection kit   | Kits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## NCBI AND UNIPROT INFORMATION

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|---------------------------|----------------|
| NCBI GI #                 | 209863079      |
| NCBI GeneID               | 100144781      |
| NCBI GenBank Nucleotide # | NP_001119613.2 |
| NCBI Official Full Name   | cathepsin B    |
| NCBI Official Symbol      | Catb-2744      |
| NCBI Protein Information  | cathepsin B    |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/detection-kits/cathepsin-b/50393>