

## Calpain Activity Assay Kit

### Product Information

**Cat.No.**

Kit-0145

**Product Overview**

Calpain Activity Assay Kit is use for measuring calpain activity.

**Description**

Activation of calpain is involved in many forms of physiological and pathological processes (e.g., apoptosis). Calpain activation requires cell membrane and  $\text{Ca}^{2+}$ , and activated calpain is released into cytosol. The Calpain Activity Assay Kit provides optimized buffers and reagents for a convenient measurement of calpain activity. The Extraction Buffer provided with the kit specifically extracts cytosolic proteins without contaminations of cell membrane and lysosome proteases. The Extraction Buffer also prevents auto-activation of calpain during the extraction procedure. Thus, the kit detects only activated calpain in cytosol upon treatment of cells with inducers (e.g., chemicals or drugs). The fluorometric assay is based on the detection of cleavage of calpain substrate Ac-LLY-AFC. Ac-LLY-AFC emits blue light ( $\lambda_{\text{max}} = 400 \text{ nm}$ ); upon cleavage of the substrate by calpain, free AFC emits a yellow-green fluorescence ( $\lambda_{\text{max}} = 505 \text{ nm}$ ), which can be quantified using a fluorometer or a fluorescence plate reader. Comparison of the fluorescence intensity from a treated sample with a normal control allows determination of the changes in calpain activity.

**Target Species**

Mammals

**Usage**

For research use only (RUO)

**Storage**

Store kit at  $-70^{\circ}\text{C}$  (Store Extraction Buffer and 10X Reaction Buffer at  $4^{\circ}\text{C}$  after opening). All reagents are stable for 6 months under proper storage conditions.

**Kit Components**

## Calpain Activity Assay Kit

Extraction Buffer 25 ml 10X Reaction Buffer 1.5 ml Calpain Substrate Ac-LLY-AFC 0.5 ml Active Calpain I (Positive Control) 10  $\mu$ l Calpain Inhibitor Z-LLY-FMK 10  $\mu$ l

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**Detection method** Fluorometric

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**Compatible Sample Types**

Cell Lysate, Tissue Lysate

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