

Rabbit Anti-Calpain Small Subunit 1/CAPNS1/CAPN4 [MD435R]: RM0473

Intended Use: For Research Use Only

Description: Calpains are calcium-dependent cysteine proteinases that are widely distributed in mammalian cells. Calpains operate as heterodimers, comprising a specific large catalytic subunit (calpain 1 and calpain 2), and a regulatory subunit 1 (Calpain small subunit 1, CAPNS1, or CAPN4). This protein associates with the catalytic large subunits of both μ -calpain (Calpain 1) and m-calpain (Calpain 2) to form heterodimeric cysteine proteases that catalyze limited proteolysis of numerous substrates involved in cytoskeletal remodeling, cell migration, and signal transduction. CAPNS1 is essential for embryonic development and is ubiquitously expressed across tissues. Researchers study this regulatory subunit to understand calpain activation mechanisms, calcium-dependent proteolysis in physiological contexts, and pathological conditions including ischemia-reperfusion injury, neurodegeneration, and endoplasmic reticulum stress responses.

Specifications:

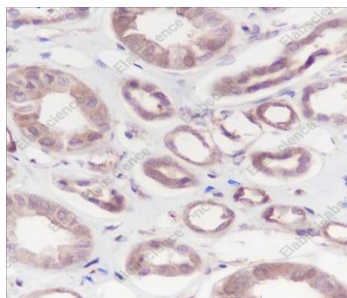
Clone:	MD435R
Source:	Rabbit
Isotype:	IgG
Immunogen:	Recombinant human Calpain small subunit 1 fragment
Reactivity:	Human
Localization:	Cytoplasm
Formulation:	Purified antibody in PBS pH7.4, containing BSA and $\leq 0.09\%$ sodium azide (NaN ₃)
Storage:	Store at 2°- 8°C
Applications:	IHC, IF
Package:	

Description	Catalog No.	Size
Calpain Small Subunit 1/CAPNS1/CAPN4 [MD435R] Concentrated	RM0473	1 ml

IHC Procedure*:

Positive Control Tissue:	Kidney, breast cancer
Concentrated Dilution:	10-100
Pretreatment:	Tris EDTA pH9.0, 15 minutes Pressure Cooker or 30-60 minutes water bath at 95°-99°C
Incubation Time and Temp:	30-60 minutes at RT
Detection:	Refer to the detection system manual

* Result should be confirmed by an established diagnostic procedure.



FFPE human kidney stained with anti-CAPNS1 using DAB

References:

1. Overexpression of a Minimal Domain of Calpastatin Suppresses IL-6 Production and Th17 Development via Reduced NF- κ B and Increased STAT5 Signals. Iguchi-Hashimoto M, et al. PLoS One. 2011;6(10):e27020.
2. The calpain inhibitor calpeptin prevents bleomycin-induced pulmonary fibrosis in mice. Tabata C, et al. Clin Exp Immunol. Sep 15, 2010. doi: 10.1111/j.1365-2249.2010.
3. Vitamin E and C supplementation does not ameliorate muscle dysfunction following anterior cruciate ligament surgery. Barker T, et al. Free Radic Biol Med. Sep 11, 2009.

Doc. 100-RM0473
Rev. A