

DESCRIPTION

Species Reactivity	Human
Specificity	Detects the pro form (amino acids 24-406) but not the mature form (amino acids 67-406) of human Renin in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse Renin, recombinant human (rh) Cat
Source	Monoclonal Mouse IgG ₁ Clone # 411507
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Renin Leu24-Arg406 Accession # P00797
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.

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

Human Renin is a member of the aspartyl proteinase family produced largely in part by the juxtaglomerular cells in the kidney (1). Renin differs from the other members of this class by having a pH optimum near the neutral pH region with native substrates instead of a pH 2.0 to 3.4 range (2). This more neutral pH optimum allows it to be functional in the plasma. Renin also has a very high selectivity for substrates due to a long peptide recognition on either side of the peptide bond undergoing cleavage. An octapeptide substrate was the minimum length to be cleaved by Renin. Renin plays a crucial role in the regulation of blood pressure and salt balance through the cleavage of angiotensinogen, which is the only known physiological substrate of Renin. Renin releases the decapeptide angiotensin I, which in turn is further converted to vasoactive hormone angiotensin II by angiotensin converting enzyme (ACE). Renin is produced as prorenin with 43 pro residues at the N-terminal of mature Renin. The inactive prorenin becomes activated proteolytically by trypsin, cathepsin B, or other proteinases. Renin is expressed as a precursor consisting of a signal sequence (aa 1-23), a propeptide (aa 24-66), and a mature chain (aa 67-406). The amino acid sequence of human REN shares 100%, 73%, 71% and 67% identity with that of chimpanzee, canine, mouse and rat.

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