

Recombinant Human REN protein, His-tagged

Cat. No. REN-052H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human REN (Leu24-Arg406) protein was fused to His-tag at C-terminus and expressed in human 293 cells (HEK293).
Species	Human
Source	HEK293
ProteinLength	Leu24-Arg406
Description	Renin is also known as REN and angiotensinogenase, is a circulating enzyme that participates in the body's renin-angiotensin system (RAS), and plays an essential role in the elevation of arterial blood pressure and increased sodium retention by the kidney. Renin activates the renin-angiotensin system by cleaving angiotensinogen, produced by the liver, to yield angiotensin I, which is further converted into angiotensin II by ACE, the angiotensin-converting enzyme primarily within the capillaries of the lungs. Renin is secreted from kidney cells, which are activated via signaling from the macula densa, which responds to the rate of fluid flow through the distal tubule, by decreases in renal perfusion pressure (through stretch receptors in the vascular wall), and by sympathetic nervous stimulation, mainly through beta-1 receptor activation. Renin can bind to ATP6AP2, which results in a fourfold increase in the conversion of angiotensinogen to angiotensin I over that shown by soluble renin. In addition, renin binding results in phosphorylation of serine and tyrosine residues of ATP6AP2. The level of renin mRNA appears to be modulated by the binding of HADHB, HuR and CP1 to a regulatory region in the 3' UTR. An over-active

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renin-angiotension system leads to vasoconstriction and retention of sodium and water. These effects lead to hypertension. Therefore, renin inhibitors can be used for the treatment of hypertension.

Predicted N Terminal	Leu24
Form	Lyophilized from 0.22 µm filtered solution in PBS, pH7.4, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 43.2 kDa. The protein migrates as 45 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.
Endotoxin	Less than 1.0 EU per µg by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles. This product is stable after storage at: -20 to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

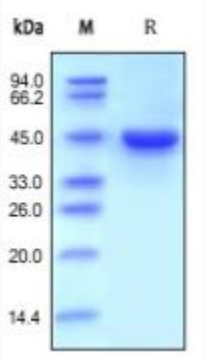
GENE INFORMATION

Gene Name	REN
Official Symbol	REN

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Synonyms	REN; renin; angiotensinogenase; renin precursor, renal; angiotensin-forming enzyme; HNFJ2; FLJ10761
Gene ID	5972
mRNA Refseq	NM_000537
Protein Refseq	NP_000528
MIM	179820
UniProt ID	P00797
SDS-PAGE of REN-052H	 Human RENIN, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.