

**Synonym**

REN,FLJ10761,Renin,angiotensinogenase

**Source**

Mouse RENIN, His Tag (REN-M5222) is expressed from human 293 cells (HEK293). It contains AA Leu 22 - Arg 402 (Accession # [NP\\_112469.1](#)). The propeptide sequence is AA Leu 22 - Thr 71.

Predicted N-terminus: Ser 72

**Molecular Characterization**

RENIN(Leu 22 - Arg 402) NP_112469.1	Poly-his
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This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 37.0 kDa. The protein migrates as 47-57 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.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

**Storage**

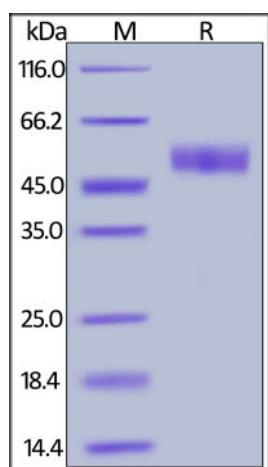
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**



Mouse 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%.

**Background**

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 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.

### Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.