

Renin, Human CellExp™, mouse recombinant

CATALOG #:	7241-10	10 µg
ALTERNATE NAMES:	CYMP, CYM, RENNIN, Chymosin	
SOURCE:	HEK 293 cells (Leu22 -Arg402)	
PURITY:	≥ 95% by SDS-PAGE gel	
MOL. WEIGHT:	The protein is fused with 6×his tag at the C-terminus and has a calculated MW of 43.2 kDa expressed. The predicted N-terminus is Leu24. Protein migrates as 45-55 kDa in reduced SDS-PAGE due to glycosylation.	
ENDOTOXIN LEVEL:	<1 EU/µg by LAL method	
FORM:	Lyophilized	

FORMULATION: Lyophilized from 0.22 µm filtered solution in PBS. Generally 5-8% Mannitol or trehalose is added as a protectant before lyophilization.

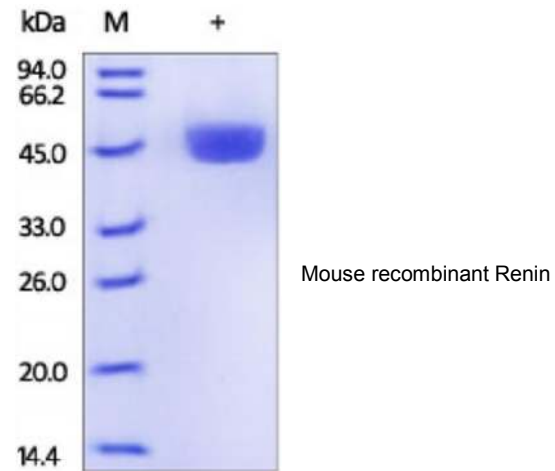
STORAGE CONDITIONS: Store at -20°C. After reconstitution, aliquot and store at -20°C and use within 3 months. Avoid repeated freezing and thawing cycles.

RECONSTITUTION: Centrifuge the vial prior to opening. Reconstitute in sterile PBS, pH 7.4 to a concentration of 50 µg/ml. Do not vortex. This solution can be stored at 2-8°C for up to 1 month. For extended storage, it is recommended to store at -20°C.

DESCRIPTION: Renin, 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-angiotensin 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.

BIOLOGICAL ACTIVITY: Measured by its ability to cleave the fluorogenic peptide substrate 5FAM/QXL™ 520. The specific activity is >25 pmol/min/µg.



RELATED PRODUCTS:

- Renin, Human CellExp™, Human Recombinant (Cat. No. 6300-10, -50, -100)
- Renin Activity Fluorometric Assay Kit (Cat. No. K800-100)
- Renin Inhibitor Screening Kit (Fluorometric) (Cat. No. K799-100)
- ACE2 (human) ELISA Kit (Cat. No. K4918-100)
- Angiotensin II (Cat. No. 4917-5)
- JM6 (Cat. No. 1913-5, -25)
- Pepstatin A (Cat. No. 1732-25, -100)
- Renin Inhibitor (Cat. No. 2084-5, -25)
- Ro 61-8048 (Cat. No. 1912-5, -25)
- Valsartan (Cat. No. 2004-25, 100, 500)

FOR RESEARCH USE ONLY! Not to be used in humans.

