Data Sheet (Cat.No.TMPY-01231)

TargetMol

Renin Protein, Mouse, Recombinant (His)

General Information

Synonyms:	Ren-A;Ren-1;Ren1;Ren1d;Ren;D19352;Rnr;Ren1c;renin;Rn-1
Protein Construction:	A DNA sequence encoding the pro form of mouse REN1 (NP_112469.1) (Met 1-Arg 402) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Leu 22
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P06281
Molecular Weight:	43.2 kDa (predicted); 48-55 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its ability to cleave the fluorogenic peptide substrate 5-FAM/QXL™ 520 (Peti-Peterdi, J. et al., 2009, Physiology 24:88.). The specific activity is > 20 pmoles/min/μg. 2. Immobilized mouse REN1-His at 10ug/ml (100 μl/well) can bind biotinylated human AGT-His with a linear range of 31.25-250 ng/ml.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Renin-1, also known as Ren-1, Angiotensinogenase and Kidney renin, is a member of the peptidase A1 family. Renin-1 is synthesized by the juxtaglomerular cells of the kidney in response to decreased blood pressure and sodium concentration. androgen and thyroid hormones influence levels of Renin-1 in mouse submandibular

gland (SMG) primarily by regulating the amount of Renin-1 mRNA available for translation. Renin-1 is a highly specific endopeptidase, whose only known function is to generate angiotensin I from angiotensinogen in the plasma, initiating a cascade of reactions that produce an elevation of blood pressure and increased sodium retention by the kidney. It is expressed at relatively low levels in mouse SMG and kidney. Ren-2 is expressed at high levels in the mouse SMG and at very low levels, if at all, in the kidney. Ren-1 and Ren-2 are closely linked on mouse chromosome 1, show extensive homology in coding and noncoding regions and provide a model for studying the regulation of gene expression.

Reference

McKeon F.D.,et al.,(1986), Homologies in both primary and secondary structure between nuclear envelope and intermediate filament proteins. Nature 319:463-468.
Fisher D.Z.,et al., (1986), cDNA sequencing of nuclear lamins A and C reveals primary and secondary structural homology to intermediate filament proteins.Proc. Natl. Acad. Sci. U.S.A. 83:6450-6454.
Sylvius N.,et al.,(2005), In vivo and in vitro examination of the functional significances of novel lamin gene mutations in heart failure patients.J. Med. Genet. 42:639-647.

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