



## Product Information Sheet

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Product Name:	Human Renin, Recombinant
Catalog Number:	72041
Size:	5 µg
Concentration:	50 µg/mL
Activity (Unit/µg):	Provided on the label
Unit definition:	One unit of protease hydrolyzes 1 picomole of FRET peptide (Arg-Glu(EDANS)-Ile-His-Pro-Phe-His-Leu-Val-I <sub>1</sub> 2-His-Thr-Lys(Dabcyl)-Arg) per minute.
Storage:	Store at -80°C. Avoid multiple freeze/thaw cycles.

### Instruction:

Renin, a highly specific aspartyl protease, cleaves angiotensinogen, produced in the liver, to yield angiotensin I, which is further converted into angiotensin II by ACE (Angiotensin Converting Enzyme).<sup>1</sup> Angiotensin II constricts blood vessels, leading to increased blood pressure. It also increases the secretion of ADH and aldosterone, and stimulates the hypothalamus to activate the thirst reflex. Since an overactive renin-angiotensin system leads to hypertension, renin is proposed as a therapeutic target for this disease.<sup>2</sup>

The recombinant human pro-renin was expressed in HEK cells and converted to the active renin. After affinity chromatography, the active enzyme has a purity of >99% by SDS-PAGE. The molecular mass of active human renin is approximately 40 kDa.

The activity of enzyme can be measured in FRET-based assays.<sup>3</sup> AnaSpec offers renin assay kits for screening of renin inhibitors and for continuous assay of renin activity (Cat#72039, Cat#72040). 15-20 ng of enzyme is sufficient for FRET-based assay.

The renin is stored in 50 mM Mops, pH 7.0 with BSA and NaN<sub>3</sub>.

### References

1. He, FJ. and GA. MacGregor, *J. Renin Angiotensin Aldosterone Syst.* **4**, 11 (2003).
2. Hollenberg, NK. *J. Am. Soc. Nephrol.* **10**, S239 (1999)
3. Paschalidou, K. et al., *Biochem. J.* **382**, 1031 (2004).

