



Product Information Sheet

Product Name:	Rat Renin, Recombinant
Catalog Number:	72141
Size:	20 µg
Concentration:	0.5 mg/mL
Activity (Unit/µg):	Provided on the label
Unit definition:	One unit of protease hydrolyzes 1 picomole of FRET substrate 5-FAM/QXL™ 520 (cat# 62334) 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).¹ 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.²

Recombinant rat pro-renin was expressed in HEK cells. Purified enzyme was converted to the active renin by tryptic activation followed by removal of trypsin. The molecular mass of active rat renin is approximately 40 kDa.

The activity of enzyme can be measured in FRET-based assays.³ AnaSpec offers renin assay kits for screening of renin inhibitors and for continuous assay of renin activity (Cat#72140). 200 ng of enzyme is sufficient for the FRET-based assay.

Renin is dissolved in 50 mM Tris-HCl, pH 8.0.

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).

