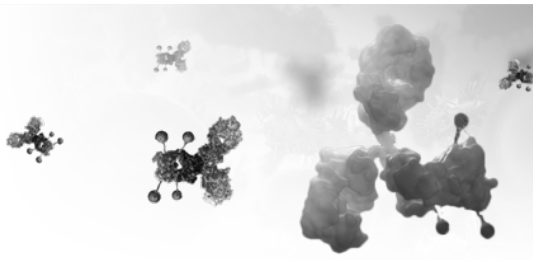

Rat Renin [His] (DAG366)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Product Overview	RecombinantRat Renin which is fully activatable to renin by catalytic amounts of trypsincontains a 8X-Histidine tag at C-terminus and 381 amino acids + 8 histidineresidues, its molecular weight is 41,849Da less glycosylation, was expressedin HEK cells.
Antigen Description	Renincatalyzes the first step in the activation pathway of angiotensinogen--acascade that can result in aldosterone release, vasoconstriction, andincrease in blood pressure. Renin, an aspartyl protease, cleavesangiotensinogen to form angiotensin I, which is converted to angiotensin IIby angiotensin I converting enzyme, an important regulator of blood pressureand electrolyte balance. Transcript variants that encode different proteinisoforms and that arise from alternative splicing and the use of alternativepromoters have been described, but their full-length nature has not beendetermined. Mutations in this gene have been shown to cause familialhyperproreninemia.
Species	Rat
Conjugate	His
Applications	Specificmethodologies have not been tested using this product.
Format	Purified, Liquid
Concentration	1.4 mg/ml (OD280nm, E0.1%= 1.13)
Buffer	50mMTris, pH 8.0
Preservative	None
Storage	2-8°C short term, -20°C long term

BACKGROUND

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Introduction	Renin is an enzyme that participates in the body's renin-angiotensin system (RAS) that mediates extracellular volume and arterial vasoconstriction. It regulates blood pressure and electrolyte homoeostasis. 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. An over-active renin-angiotension system leads to vasoconstriction and retention of sodium and water. Renin has been identified to be an attractive target for the treatment of hypertension. The Amplite Renin Assay Kit provides a convenient assay for high throughput screening of renin inhibitors and renin activity using our proprietary Tide Fluor 3 (TF3)/Tide Quencher 3 (TQ3) fluorescence resonance energy transfer (FRET) peptide. In the FRET peptide, the fluorescence of TF3 is quenched by TQ3. Upon cleavage into two separate fragments by renin, the fluorescence of TF3 is recovered, and the fluorescent signal can be easily monitored by a fluorescence microplate reader at Ex/Em = 540/590 nm. This assay is about fifty fold more sensitive than an EDANS/DABCYL-based assay. With the Amplite Renin Assay Kit, we have detected as little as 1ng renin in a 100 L reaction volume.
Keywords	REN; renin; HNFJ2; angiotensinogenase; renin precursor, renal; angiotensin-forming enzyme

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