

PRODUCT INFORMATION



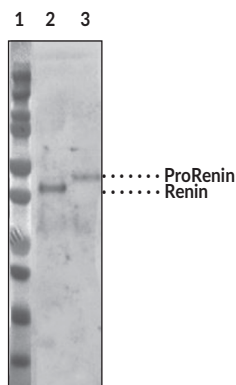
Renin Monoclonal Antibody (Clone 3G10)

Item No. 17624

Overview and Properties

Contents:	This vial contains 100 µl caprylic acid/ammonium sulfate-purified monoclonal antibody.
Synonyms:	Angiotensinogenase
Immunogen:	Recombinant human renin
Cross Reactivity:	(+) Renin
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	O75787
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
Clone:	3G10
Host:	Mouse
Isotype:	IgG _{2b}
Applications:	Immunoprecipitation (IP); the recommended starting dilution is 5 µg/test. Western blot (WB) and other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Molecular Weight Standard

Lane 2: Renin (human recombinant) (Item No. 10006217) (2 µg)

Lane 3: Prorenin (human recombinant) (Item No. 10007599) (2 µg)

The renin monoclonal antibody (clone 3G10) was immobilized on Protein G resin and used to pull down renin (lane 1) or prorenin (lane 2)

These samples were eluted and run on SDS-PAGE, transferred to a nitrocellulose membrane, and probed with an anti-renin polyclonal antibody (Cayman Item No. 17623 at 5 µg/ml)

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Renin is an aspartyl protease glycoprotein, a member of the aspartic acid protease family, and a hormone.¹ It is a single-chain polypeptide in which the N- and C-terminal portions contain an aspartate residue responsible for its catalytic activity. It is formed from prorenin, a zymogen found primarily in the juxtaglomerular cells in the kidney, by proteolytic removal of its autoinhibitory domain.^{2,3} Renin catalyzes the conversion of angiotensinogen to angiotensin I, which is the first and rate-limiting step of the renin-angiotensin system (RAS) responsible for regulating blood pressure.³ When blood pressure is low, renin secretion is increased and the RAS is activated, which increases arterial vasoconstriction and sodium resorption to maintain blood pressure at homeostatic levels.⁴ Deletion or substitution of the leucine in position 16 of *REN*, the gene encoding renin, that reduce or eliminate renin biosynthesis are associated with multiple inflammatory diseases, including chronic kidney failure and early-onset hyperuricemia.⁵ Cayman's Renin Monoclonal Antibody (Clone 3G10) can be used for immunoprecipitation (IP) and Western blot applications.

References

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2. Persson, P.B. Renin: Origin, secretion and synthesis. *J. Physiol.* **552(Pt 3)**, 667-671 (2003).
3. Patel, S., Rauf, A., Khan, H., *et al.* Renin-angiotensin-aldosterone (RAAS): The ubiquitous system for homeostasis and pathologies. *Biomed. Pharmacother.* **94**, 317-325 (2017).
4. Cartledge, S. and Lawson, N. Aldosterone and renin measurements. *Ann. Clin. Biochem.* **37(Pt 3)**, 262-278 (2000).
5. Zivná, M., Hůlková, H., Matignon, M., *et al.* Dominant renin gene mutations associated with early-onset hyperuricemia, anemia, and chronic kidney failure. *Am. J. Hum. Genet.* **85(2)**, 204-213 (2009).

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