abcam

ab248098

Anti-Renin antibody [EPR6433] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR6433
Purification technique	Affinity purification Protein A
Dissociation constant	1.7 x 10^{-11} M
Concentration	1.003 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information REN

Function	Renin 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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab248098 is the carrier-free version of ab125012.
Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Renin also known as angiotensinogenase is a proteolytic enzyme with a molecular weight of approximately 40 kDa. It is mainly expressed in the juxtaglomerular cells of the kidneys. Renin plays an important role in the renin-angiotensin system where it initiates the conversion of angiotensinogen to angiotensin I. This process is the first step in a cascade leading to a series of effects in blood pressure regulation and fluid balance.
Biological function summary	The renin enzyme is responsible for blood pressure control and electrolyte homeostasis. It acts as a significant regulator within the renin-angiotensin aldosterone system (RAAS). By catalyzing the formation of angiotensin I from angiotensinogen renin sets off a sequence of reactions that influence vascular tone and sodium reabsorption. The activity of renin significantly interacts with various cardiovascular functions alongside complex regulatory feedback from other hormones such as aldosterone.
Pathways	Renin is a pivotal part of RAAS and interlinks with multiple cardiovascular pathways. The RAAS pathway involves angiotensinogen renin angiotensin I converting enzyme (ACE) and angiotensin II. Angiotensin II then acts on its receptor to mediate vasoconstriction and aldosterone secretion. The direct relationship between renin and ACE places this enzyme in the center of blood pressure management and has implications on kidney function and homeostasis.
Associated diseases and disorders	High renin activity has connections with hypertension and cardiovascular diseases. Elevated renin levels contribute to increased angiotensin II production causing vasoconstriction and blood pressure elevation. Disorders like renal hypertension see direct involvement of the renin-angiotensin system. Therapeutic approaches often target RAAS with angiotensin-converting enzyme inhibitors (ACE inhibitors) and angiotensin receptor blockers aiming to mitigate the renin-related impact on these diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

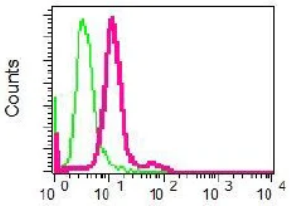
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

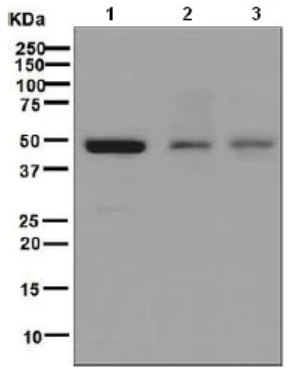
3 product images



Flow Cytometry (Intracellular) - Anti-Renin antibody [EPR6433] - BSA and Azide free (ab248098)

Renin Flow Cytometry (Intracellular) staining using rabbit Anti-Renin antibody

This data was developed using ab125012, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized K562 cells using ab125012 at 1/10 shown in red or a rabbit IgG negative control shown in green.



Western blot - Anti-Renin antibody [EPR6433] - BSA and Azide free (ab248098)

Renin Western blot staining using rabbit Anti-Renin antibody

This data was developed using ab125012, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Renin antibody [EPR6433] (ab125012) at 1/1000 dilution

Lane 1:
K562 lysate at 10 µg

Lane 2:
293T (Human embryonic kidney epithelial cell) cell lysate at 10 µg

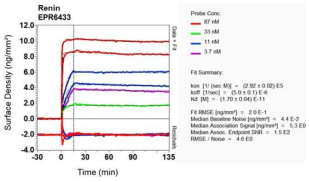
Lane 3:
HepG2 cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 45 kDa

Observed band size: 47 kDa



OI-RD Scanning - Anti-Renin antibody [EPR6433] - BSA and Azide free (ab248098)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.