abcam

ab238942

Anti-Renilla Luciferase antibody [EPR17792] - 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	EPR17792
Purification technique	Affinity purification Protein A
Concentration	1.054 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Renilla reniformis
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Renilla reniformis
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Renilla reniformis
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information Coelenterazine h 2-monooxygenase

Function	Upon binding the substrate, the enzyme catalyzes an oxygenation, producing a very short-lived hydroperoxide that cyclizes into a dioxetanone structure, which collapses, releasing a CO(2) molecule. The spontaneous breakdown of the dioxetanone releases the energy (about 50 kcal/mole) that is necessary to generate the excited state of the coelenteramide product, which is the singlet form of the monoanion. In vivo the product undergoes the process of nonradiative energy transfer to an accessory protein, a green fluorescent protein (GFP), which results in green bioluminescence. In vitro, in the absence of GFP, the product emits blue light.

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

ab238942 is the carrier-free version of ab185926.

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	Renilla Luciferase also known as RLuc is an enzyme that catalyzes the oxidation of its substrate coelenterazine producing bioluminescence. With a molecular mass of approximately 36 kDa RLuc facilitates this reaction by oxygenation resulting in the emission of blue light. Renilla Luciferase is typically isolated from the sea pansy Renilla reniformis and has been widely used as a reporter gene in molecular biology for monitoring gene expression and cellular events due to its efficient light production.
Biological function summary	Renilla Luciferase operates as part of the bioluminescent system found in certain marine organisms. In its native environment it interacts with other proteins like Green Fluorescent Protein (GFP) to which it transfers energy converting blue light to green fluorescence. This process of bioluminescence serves various ecological functions including predator avoidance and communication between organisms. These interactions highlight the importance of Renilla Luciferase in understanding biological luminescence systems.
Pathways	Researchers use Renilla Luciferase extensively in signaling and metabolic pathway analyses. It plays an important role in the study of G-protein coupled receptor (GPCR) pathways where it can help to analyze receptor activation and downstream communication. In these pathways it often pairs with other luminescent or fluorescent markers like Firefly Luciferase or GFP enabling simultaneous dual-reporter assays to provide more comprehensive data on cellular responses.
Associated diseases and disorders	Renilla Luciferase aids in the study of cancer and infectious diseases. Its role in reporter assays facilitates the investigation of gene expression changes and the screening of potential therapeutic compounds. For example in cancer research it is frequently paired with p53 proteins for studying apoptosis and cell cycle regulation. Similarly in infectious disease studies Renilla Luciferase reporters can track viral infections and the efficacy of antiviral drugs. These applications highlight its value in advancing biomedical research and drug development.

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.

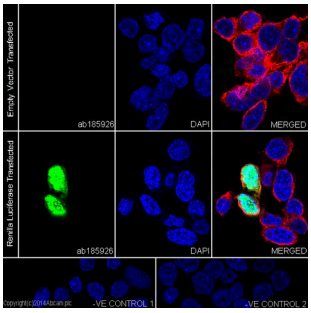
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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3 product images

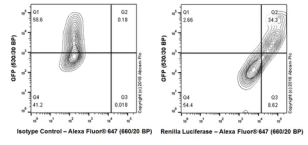


Immunocytochemistry/ Immunofluorescence - Anti-Renilla Luciferase antibody [EPR17792] - BSA and Azide free (ab238942)

Renilla Luciferase Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Renilla Luciferase antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HEK293T (Human epithelial cells from embryonic kidney) cells transfected with Empty vector or Renilla Luciferase, labeling Renilla Luciferase with ab185926 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Nuclear staining on HEK293T cells transfected with Renilla Luciferase is observed. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows;
1. ab185926 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
2. ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab185936).

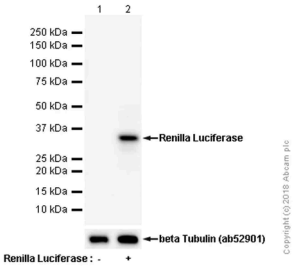


Flow Cytometry - Anti-Renilla Luciferase antibody [EPR17792] - BSA and Azide free (ab238942)

Renilla Luciferase Flow Cytometry staining using rabbit Anti-Renilla Luciferase antibody

Flow Cytometry analysis of 293T (Human epithelial cell line from embryonic kidney) transfected with GFP tagged Renilla Luciferase cells labeled with purified ab185926 at 1/70 dilution (10µg/ml,

Right panel) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 647)(1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Left panel) was used as the isotype control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab185926).



Western blot - Anti-Renilla Luciferase antibody [EPR17792] - BSA and Azide free (ab238942)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab185926).
All lanes:
Western blot - Anti-Renilla Luciferase antibody [EPR17792] (ab185926) at 1/1000 dilution

Lane 1:
293T (Human embryonic kidney epithelial cell) transfected with an empty vector (vector control), whole cell lysate at 15 µg

Lane 2:
293T (Human embryonic kidney epithelial cell) transfected with Renilla Luciferase expression vector, whole cell lysate at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 36 kDa

Observed band size: 36 kDa

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