abcam

ab225339

Alexa Fluor® 647 Anti-Renilla Luciferase antibody [EPR17792]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR17792
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	This product gave a positive signal in 293T cells transfected with Renilla Luciferase fixed with 4% formaldehyde (10 min)

Not recommended

Species	Mouse
Dilution info	-
Notes	This product gave a positive signal in 293T cells transfected with Renilla Luciferase fixed with 4% formaldehyde (10 min)

Species	Rat
Dilution info	-
Notes	This product gave a positive signal in 293T cells transfected with Renilla Luciferase fixed with 4% formaldehyde (10 min)

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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Stable for 12 months at -20°C, Store in the dark

Notes

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.

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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.

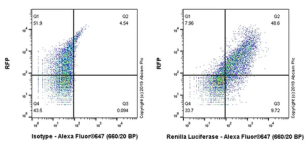
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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2 product images

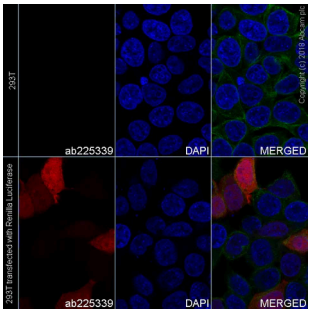


Flow Cytometry - Alexa Fluor® 647 Anti-Renilla Luciferase antibody [EPR17792] (ab225339)

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

Flow cytometric analysis of 293T transfected with RFP tagged Renilla Luciferase stained with ab225339 (right panel). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 90% methanol. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab225339, 1/500 dilution) for 30 min at 22°C.
Isotype control antibody (left panel) was Rabbit IgG (monoclonal) Alexa Fluor® 647 (ab199093) used at the same concentration and conditions as the primary antibody. Co-staining with RFP (y-axis).

Acquisition of >5,000 events were collected using a 17 mW red Helium-Neon laser (633nm) and 660/20 bandpass filter.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-Renilla Luciferase antibody [EPR17792] (ab225339)

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

ab225339 staining Renilla Luciferase in 293T cells transfected with Renilla Luciferase and normal 293T cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab225339 at 1/100 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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