abcam

# ab197021

# Anti-NUDT9 antibody [EPR15175]

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | EPR15175 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.856 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/20000 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/250 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/170 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/250 - 1/500 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/250 - 1/500 |
| **Notes** | - |

## Target data

See full target information NUDT9

| | |
|---|---|
| **Function** | Hydrolyzes ADP-ribose (ADPR) to AMP and ribose 5'-phosphate (PubMed:11385575, PubMed:37343711). Has also a weak phosphohydrolase activity against NADH and FAD (in vitro) (PubMed:37343711). |

## Storage

| | |
|---|---|
| **Shipped at conditions** | Conditional Ambient |
| **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 |

## 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.

## Supplementary info

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

| | |
|---|---|
| **Activity summary** | NUDT9 also known as Nudix Hydrolase 9 is an enzyme that exhibits pyrophosphatase activity on molecules like ADP-ribose. It has an approximate mass of 35 kDa. NUDT9 is expressed in various tissues with significant levels observed in the brain and heart. This protein helps break down ADP-ribose into AMP and ribose-5-phosphate assisting in the regulation of cellular ADP-ribose concentrations. |
| **Biological function summary** | NUDT9 helps to maintain cellular balance by controlling levels of ADP-ribose a substrate for poly ADP-ribose polymerases. This regulation is essential for energy metabolism and DNA repair processes. NUDT9 operates independently and does not blend into larger protein complexes focusing strictly on its enzymatic role ensuring the cell's homeostasis. |
| **Pathways** | NUDT9 is significantly involved in NAD+ metabolism and the DNA repair mechanism. By converting ADP-ribose NUDT9 interacts with pathways that are central to maintaining cellular energy balance and protecting cells from DNA damage. It is functionally linked with enzymes such as PARP (poly ADP-ribose polymerase) which are pivotal in detecting and signaling DNA strand breaks. |
| **Associated diseases and disorders** | NUDT9's role in regulating ADP-ribose links it to conditions where cellular stress and energy metabolism are disrupted. Its malfunction has correlations with neurodegenerative diseases like Alzheimer's where altered energy metabolism and DNA damage responses are critical factors. NUDT9 also connects with proteins like PARP which are implicated in this pathological context indicating a potential therapeutic target for managing such disorders. |

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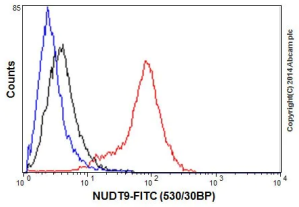
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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## 5 product images

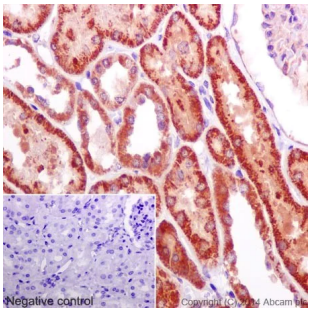



### Flow Cytometry (Intracellular) - Anti-NUDT9 antibody [EPR15175] (ab197021)

NUDT9 Flow Cytometry (Intracellular) staining using rabbit Anti-NUDT9 antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed Jurkat (Human T cell leukemia cells from peripheral blood) cells labeling NUDT9 with ab197021 at 1/170 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.

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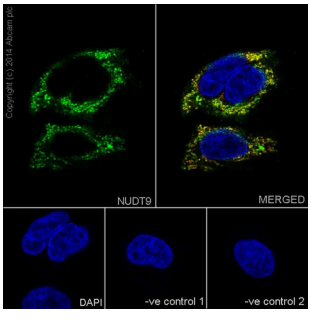

### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NUDT9 antibody [EPR15175] (ab197021)

NUDT9 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NUDT9 antibody

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling NUDT9 with ab197021 at 1/500 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Cytoplasm staining on Human kidney tissue is observed. Counter stained with Hematoxylin.
Negative control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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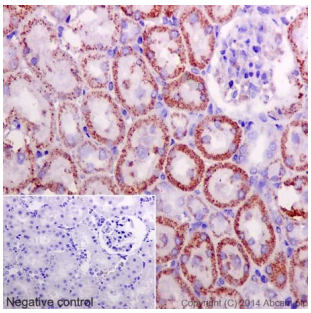



### Immunocytochemistry/ Immunofluorescence - Anti-NUDT9 antibody [EPR15175] (ab197021)

NUDT9 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NUDT9 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling NUDT9 with ab197021 at 1/250 dilution followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at

1/500 dilution (green). Mitochondrion staining on HeLa cell line is observed. The nuclear counterstain is DAPI (blue). COX IV is detected with ab33985 (anti-COX IV 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:-
-ve control 1: ab197021 at 1/250 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab33985 (anti-COX IV mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.

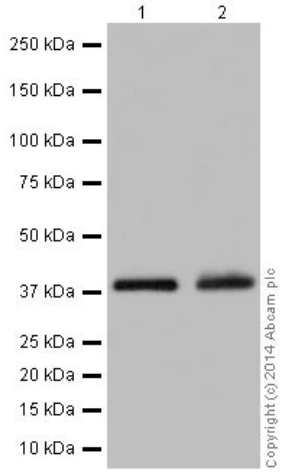



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NUDT9 antibody [EPR15175] (ab197021)

NUDT9 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NUDT9 antibody

Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labeling NUDT9 with ab197021 at 1/500 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Cytoplasm staining on Rat kidney tissue is observed. Counter stained with Hematoxylin. Negative control: Used PBS instead of primary antibody secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.




## Western blot - Anti-NUDT9 antibody [EPR15175] (ab197021)

NUDT9 Western blot staining using rabbit Anti-NUDT9 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-NUDT9 antibody [EPR15175] (ab197021) at 1/20000 dilution

Lane 1:
Jurkat (Human T cell leukemia cells from peripheral blood) cell lysate at 20 µg

Lane 2:
HUVEC (Human umbilical vein endothelial cell line) cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 39 kDa

Observed band size: 39 kDa

Exposure time: 30s

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