abcam

**ab247765**

# Anti-NAT1 antibody [EPR3221(2)] - 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** | EPR3221(2) |
| **Purification technique** | Affinity purification Protein A |

## Reactivity data

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## IP

**Not recommended**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## WB

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

**Not recommended**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

# Target data

See full target information NAT1

| | |
|---|---|
| **Function** | Participates in the detoxification of a plethora of hydrazine and arylamine drugs. Catalyzes the N- or O-acetylation of various arylamine and heterocyclic amine substrates and is able to bioactivate several known carcinogens. |

## 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

ab247765 is the carrier-free version of ab109114.

**Species reactivity**

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

**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** | NAT1 also known as arylamine N-acetyltransferase 1 serves as an important enzyme in acetylation reactions. This enzyme with a molecular mass of approximately 33 kDa catalyzes the transfer of acetyl groups to arylamines and other substrates such as hydrazines. By doing so NAT1 influences xenobiotic metabolism. The enzyme is expressed in various tissues most notably in the liver intestine and lung which aligns with its role in detoxifying and metabolizing drugs and carcinogens. |
| **Biological function summary** | NAT1 plays a significant role in detoxifying environmental toxins and carcinogens. The enzyme's activity contributes to the acetylation a phase II metabolic reaction which often converts lipophilic substrates into more hydrophilic products for excretion. NAT1 stands independently and does not form part of a larger complex. It shares functional similarities with other N-acetyltransferases but its substrate specificity can differ which influences its distinct biological role. |
| **Pathways** | NAT1 is intricately involved in metabolic and detoxification pathways. It participates in the biotransformation of various drugs and environmental carcinogens making it important for xenobiotic metabolism. NAT1 often interacts with cytochrome P450 enzymes during these processes which also contribute to the initial phase I oxidation reactions. The interplay between NAT1 and these detoxification pathways highlights the enzyme's contribution to reducing potential toxicities. |
| **Associated diseases and disorders** | NAT1 has associations with both cancer and hypersensitivity to certain drugs. Variations in NAT1 activity due to genetic polymorphisms can influence individual susceptibility to cancers particularly bladder cancer linked to arylamine exposure. Additionally its interaction with cytochrome P450 enzymes may also impact drug metabolism potentially leading to adverse drug reactions. Understanding NAT1 and its interactions help assess risks related to 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**

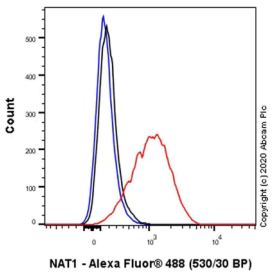
We do not recommend this combination. It is not covered by our product promise.

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

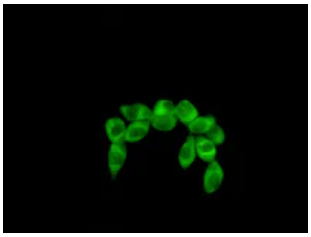



### Flow Cytometry (Intracellular) - Anti-NAT1 antibody [EPR3221(2)] - BSA and Azide free (ab247765)

NAT1 Flow Cytometry (Intracellular) staining using rabbit Anti-NAT1 antibody

This data was developed using ab109114, the same antibody clone in a different buffer formulation.

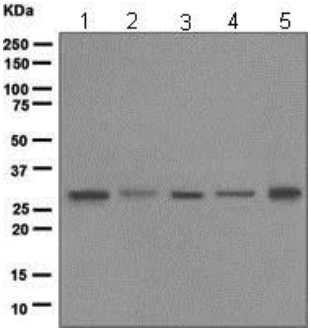
Flow Cytometry analysis of LNCaP (Human prostate carcinoma epithelial cell) cells labeling NAT1 with purified ab109114 at 1/100 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



### Immunocytochemistry/ Immunofluorescence - Anti-NAT1 antibody [EPR3221(2)] - BSA and Azide free (ab247765)

NAT1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NAT1 antibody

This data was developed using ab109114, the same antibody clone in a different buffer formulation.
Immunofluorescent staining of LN-CAP cells using anti-NAT1 at 1/100 (ab109114).




### Western blot - Anti-NAT1 antibody [EPR3221(2)] - BSA and Azide free (ab247765)

This data was developed using ab109114, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-NAT1 antibody [EPR3221(2)] (ab109114) at 1/1000 dilution

Lane 1:
U937 cell lysate at 10 µg

Lane 2:
Fetal liver cell lysate at 10 µg

Lane 3:
LnCaP cell lysate at 10 µg

Lane 4:
Human bladder cell lysate at 10 µg

Lane 5:
HT-1376 cell lysate at 10 µg

Predicted band size: 34 kDa

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