abcam

Product datasheet

# Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker ab126712

敲除验证 重组 RabMAb

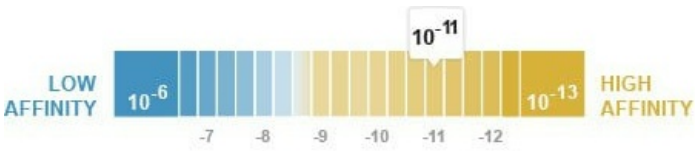
1 Abreviews 6 References 12 图像

## 概述

| | |
|---|---|
| **产品名称** | Anti-RAB7抗体[EPR7588(B)] - Late Endosome Marker |
| **描述** | 兔单克隆抗体[EPR7588(B)] to RAB7 - Late Endosome Marker |
| **宿主** | Rabbit |
| **经测试应用** | **适用于:** Flow Cyt (Intra), WB, IHC-P, ICC/IF |
| **种属反应性** | **与反应:** Mouse, Rat, Human |
| **免疫原** | Synthetic peptide within Human RAB7 aa 50-150. The exact sequence is proprietary.<br>Database link: **P51149** |
| **阳性对照** | WB: HeLa, A375, A431, HACAT, B16F0 and C6 cell lysates and human fetal brain tissue lysate. IHC-P: Human colon adenocarcinoma tissue. ICC/IF: HT-29 cells. |
| **常规说明** | This product is a recombinant monoclonal antibody, which offers several advantages including:<br>- High batch-to-batch consistency and reproducibility<br>- Improved sensitivity and specificity<br>- Long-term security of supply<br>- Animal-free production<br>For more information **see here**.<br>Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. |

## 性能

| | |
|---|---|
| **形式** | Liquid |
| **存放说明** | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Stable for 12 months at -20°C. |
| **解离常数 ($K_D$)** | $K_D$ = 5.90 x 10 $^{-11}$ M |



Learn more about $K_D$

| | |
|---|---|
| **存储溶液** | pH: 7.20<br>Preservative: 0.01% Sodium azide<br>Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.16% BSA |
| **纯度** | Protein A purified |
| **克隆** | 单克隆 |
| **克隆编号** | EPR7588(B) |
| **同种型** | IgG |

## 应用

**The Abpromise guarantee** Abpromise™承诺保证使用ab126712于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

| 应用 | Ab评论 | 说明 |
|---|---|---|
| **Flow Cyt (Intra)** | | Use at an assay dependent concentration. |
| **WB** | ★★★★★ (1) | 1/1000 - 1/10000. Detects a band of approximately 23 kDa (predicted molecular weight: 23 kDa). |
| **IHC-P** | | 1/50 - 1/100. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.<br>See **IHC antigen retrieval protocols**. |
| **ICC/IF** | | 1/50 - 1/500. |

## 靶标

**功能** Key regulator in endo-lysosomal trafficking. Governs early-to-late endosomal maturation, microtubule minus-end as well as plus-end directed endosomal migration and positioning, and endosome-lysosome transport through different protein-protein interaction cascades. Plays a central role, not only in endosomal traffic, but also in many other cellular and physiological events, such as growth-factor-mediated cell signaling, nutrient-transportor mediated nutrient uptake, neurotrophin transport in the axons of neurons and lipid metabolism. Also involved in regulation of some specialized endosomal membrane trafficking, such as maturation of melanosomes, pathogen-induced phagosomes (or vacuoles) and autophagosomes. Plays a role in the maturation and acidification of phagosomes that engulf pathogens, such as S.aureus and M.tuberculosis. Plays a role in the fusion of phagosomes with lysosomes. Plays important roles in microbial pathogen infection and survival, as well as in participating in the life cycle of viruses. Microbial pathogens possess survival strategies governed by RAB7A, sometimes by employing RAB7A function (e.g. Salmonella) and sometimes by excluding RAB7A function (e.g. Mycobacterium). In concert with RAC1, plays a role in regulating the formation of RBs (ruffled borders) in osteoclasts. Controls the endosomal trafficking and neurite outgrowth signaling of NTRK1/TRKA. Regulates the endocytic trafficking of the EGF-EGFR complex by regulating its lysosomal degradation.

**组织特异性** Widely expressed; high expression found in skeletal muscle.

**疾病相关**

Defects in RAB7A are the cause of Charcot-Marie-Tooth disease type 2B (CMT2B) [MIM:600882]; also known as hereditary motor and sensory neuropathy II (HMSN2). CMT2B is a form of Charcot-Marie-Tooth disease, the most common inherited disorder of the peripheral nervous system. Charcot-Marie-Tooth disease is classified in two main groups on the basis of electrophysiologic properties and histopathology: primary peripheral demyelinating neuropathy or CMT1, and primary peripheral axonal neuropathy or CMT2. Neuropathies of the CMT2 group are characterized by signs of axonal regeneration in the absence of obvious myelin alterations, normal or slightly reduced nerve conduction velocities, and progressive distal muscle weakness and atrophy. CMT2B is clinically characterized by marked distal muscle weakness and a high frequency of foot ulcers, infections and amputations of the toes. CMT2B inheritance is autosomal dominant.

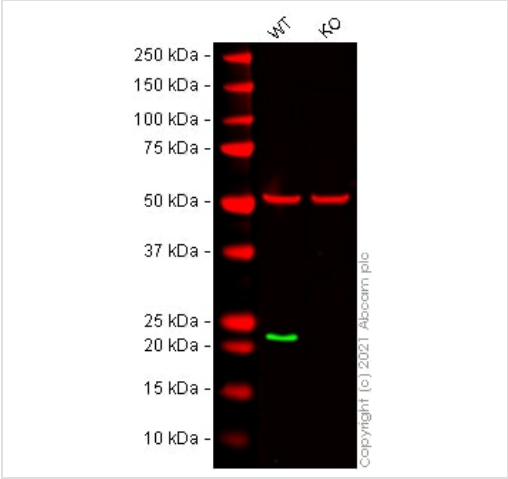
**序列相似性**

Belongs to the small GTPase superfamily. Rab family.

**细胞定位**

Late endosome. Lysosome. Cytoplasmic vesicle > phagosome. Melanosome. Cytoplasmic vesicle > phagosome membrane. Co-localizes with OSBPL1A at the late endosome. Found in the ruffled border (a late endosomal-like compartment in the plasma membrane) of bone-resorbing osteoclasts. Recruited to phagosomes containing S.aureus or Mycobacterium.

## 图片




Western blot - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

**All lanes :** Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712) at 1/1000 dilution

**Lane 1 :** Wild-type HeLa cell lysate
**Lane 2 :** RAB7A knockout HeLa cell lysate

Lysates/proteins at 20 µg per lane.

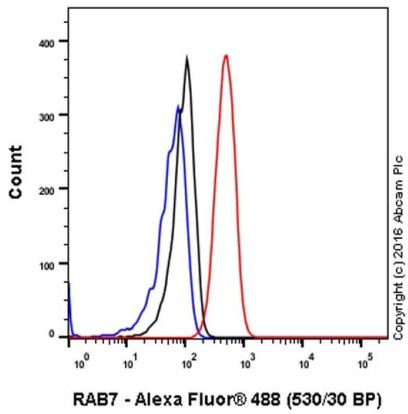
Performed under reducing conditions.

**Predicted band size:** 23 kDa
**Observed band size:** 23 kDa

**Lanes 1 - 2:** Merged signal (red and green). Green - ab126712 observed at 23 kDa. Red - loading control **ab7291** (Mouse anti-Alpha Tubulin [DM1A]) observed at 55 kDa.

ab126712 was shown to react with RAB7 in wild-type HeLa cells in Western blot with loss of signal observed in RAB7A knockout cell line **ab255423** (RAB7A knockout cell lysate **ab263831**). Wild-type HeLa and RAB7A knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab126712 and **ab7291** (Mouse anti-Alpha Tubulin [DM1A]) overnight at 4 °C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with

Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.

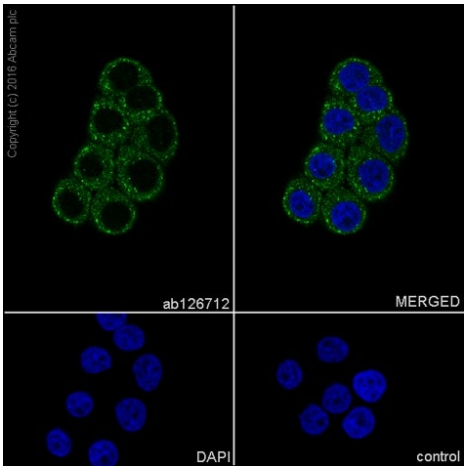



Flow Cytometry (Intracellular) - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

ab126712 staining RAB7in the human cell line A431 (human epidermoid carcinoma) by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde and the sample was incubated with the primary antibody at a dilution of 1/80. A goat anti rabbit IgG (Alexa Fluorr® 488) at a dilution of 1/2000 was used as the secondary antibody.

Isoytype control: Rabbit monoclonal IgG (Black)

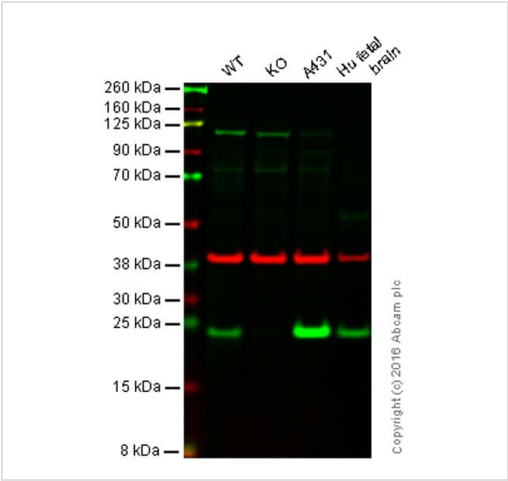
Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)




Immunocytochemistry/ Immunofluorescence - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

Immunocytochemistry/Immunofluorescence analysis of HT-29 (human colorectal adenocarcinoma epithelial cell) labeling RAB7 with ab126712 at 1/500. Cells were fixed with 4% Paraformaldehyde and permeabilised with 0.1% TritonX-100. **ab150077**, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.

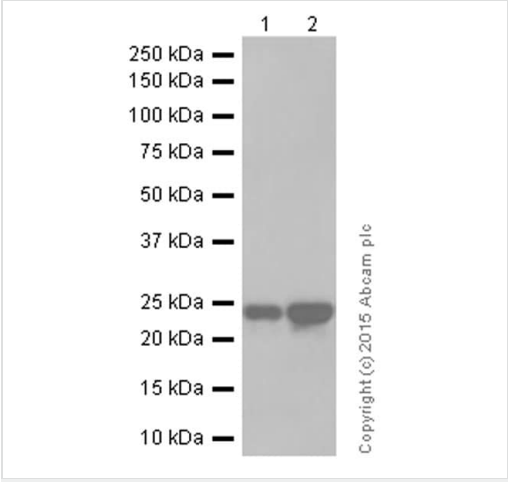
Confocal image showing cytoplasmic staining in HT-29 cells.




Western blot - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

**Lane 1**: Wild-type HAP1 cell lysate (20 µg)
**Lane 2**: RAB7 knockout HAP1 cell lysate (20 µg)
**Lane 3**: A431 cell lysate (20 µg)
**Lane 4**: Human fetal brain tissue lysate (20 µg)
**Lanes 1 - 4**: Merged signal (red and green). Green - ab126712 observed at 24 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

ab126712 was shown to recognize RAB7 when RAB7 knockout samples were used, along with additional cross-reactive bands. Wild-type and RAB7 knockout samples were subjected to SDS-PAGE. ab126712 and **ab8245** (loading control to GAPDH) were diluted 1/1000 and 1/10000 and incubated overnight at 4°C. Blots were developed withGoat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1/10000 dilution for 1 h at room temperature before imaging.




Western blot - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

**All lanes :** Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712) at 1/1000 dilution

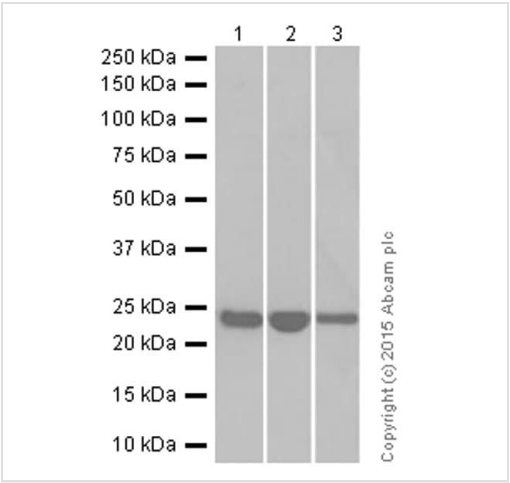
**Lane 1 :** A375 whole cell lysate
**Lane 2 :** A431 whole cell lysate

Lysates/proteins at 20 µg per lane.

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

**Predicted band size:** 23 kDa
**Observed band size:** 23 kDa

Blocking and diluting buffer 5% NFDM/TBST




Western blot - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

**All lanes :** Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712) at 1/1000 dilution

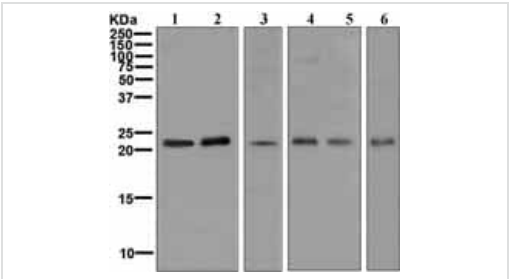
**Lane 1 :** C6 (rat glioma) whole cell lysate
**Lane 2 :** Raw264.7 (mouse abelson murine leukemia virus-induced tumor) whole cell lysate
**Lane 3 :** NIH/3T3 (mouse embryo) whole cell lysate

Lysates/proteins at 20 µg per lane.

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

**Predicted band size:** 23 kDa
**Observed band size:** 23 kDa

Blocking and diluting buffer 5% NFDM/TBST




Western blot - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

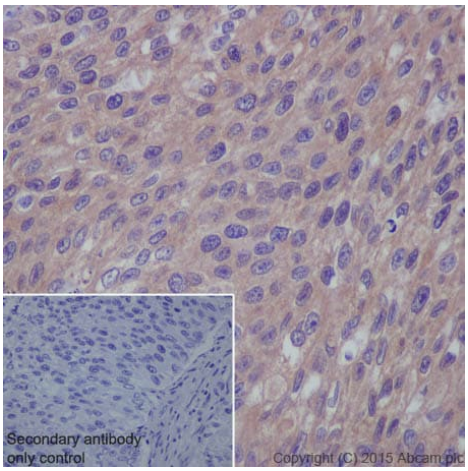
**All lanes :** Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712) at 1/1000 dilution (unpurified)

**Lane 1 :** A375 cell lysate
**Lane 2 :** A431 cell lysate
**Lane 3 :** HACAT cell lysate
**Lane 4 :** Human fetal brain lysate
**Lane 5 :** B16F0 cell lysate
**Lane 6 :** C6 cell lysate

Lysates/proteins at 10 µg per lane.

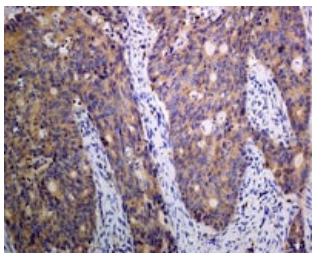
**Secondary**
**All lanes :** Goat anti-Rabbit HRP at 1/2000 dilution

**Predicted band size:** 23 kDa




Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

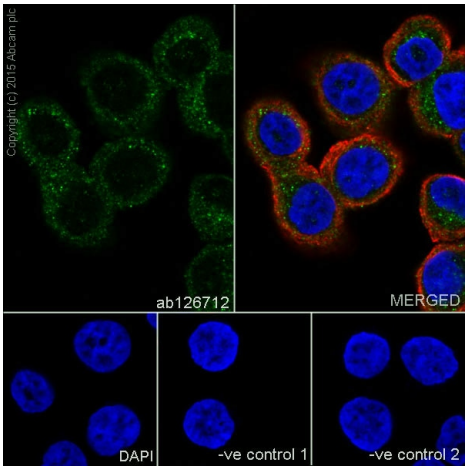
Immunohistochemical staining of paraffin-embedded human bladder carcinoma sections labelling RAB7 with purified ab126712 at dilution of 1/70. The secondary antibody used was **ab97051**; a goat anti-rabbit IgG H&L (HRP) at dilution of 1/500. The sample was counter-stained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0. PBS was used instead of the primary antibody as the negative control and is shown in the inset.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

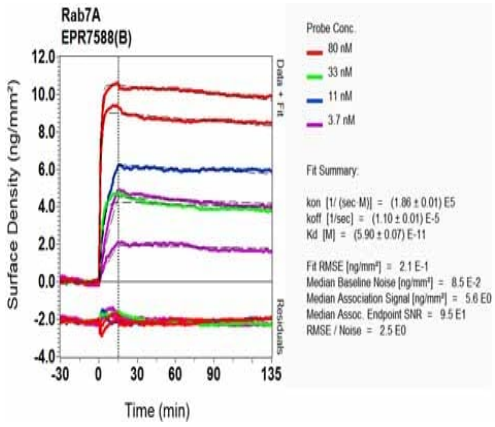
Immunohistochemical analysis of paraffin-embedded Human colon adenocarcinoma tissue labelling Rab7A with unpurified ab126712 at dilution of 1/50.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.




Immunocytochemistry/ Immunofluorescence - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

Immunocytochemistry/immunofluorescence staining of 4% paraformaldehyde fixed; 0.1% triton X 100 permeabilized HT-29 (human colorectal adenocarcinoma) cells with purified ab126712 at dilution of 1/100. The secondary antibody used was Alexa Fluor® 488; goat anti-rabbit IgG (**ab150077**) at a dilution of 1/1000. Nucleus was counter-stained with DAPI (blue). **ab7291**, a mouse anti-tubulin antibody (1/1000) was used to stain tubulin along with **ab150120** (AlexaFluor®594 goat anti-mouse secondary, 1/1000) shown in the top right hand panel. The negative controls are shown in the bottom middle and right hand panels- for negative control 1 rabbit primary antibody and anti-mouse secondary antibody (**ab150120**) was used. For negative control 2 mouse primary antibody (**ab7291**) and anti-rabbit secondary antibody (**ab150077**) was used.




OI-RD Scanning - Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

Equilibrium disassociation constant ($K_D$)

Learn more about $K_D$

**Click here to learn more about $K_D$**


Anti-RAB7 antibody [EPR7588(B)] - Late Endosome Marker (ab126712)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

## Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.cn/abpromise** or contact our technical team.

## Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors