abcam

Product datasheet

Anti-GTPase HRAS antibody [Y132] ab32417

KO VALIDATED Recombinant RabMAb

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Overview

Product name	Anti-GTPase HRAS antibody [Y132]
Description	Rabbit monoclonal [Y132] to GTPase HRAS
Host species	Rabbit
Specificity	Reactivity with other RAS members has not been tested.
Tested applications	**Suitable for:** WB, IP **Unsuitable for:** IHC
Species reactivity	**Reacts with:** Mouse, Rat, Human **Predicted to work with:** Chicken
Immunogen	Synthetic peptide within Human GTPase HRAS aa 150 to the C-terminus (C terminal). The exact sequence is proprietary.
Positive control	MCF7 and PC12 cell lysates and MCF7 cells.
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified

Clonality	Monoclonal
Clone number	Y132
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab32417 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★☆☆ **(6)**	1/500 - 1/1000. Detects a band of approximately 21 kDa.
IP		1/50 - 1/60.

Application notes Is unsuitable for IHC.

Target

Function Ras proteins bind GDP/GTP and possess intrinsic GTPase activity.

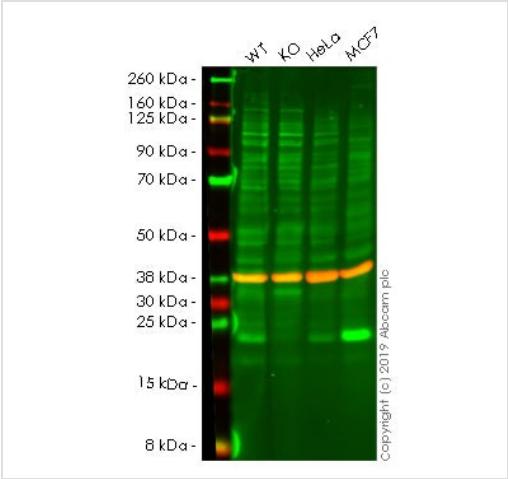
Involvement in disease Defects in HRAS are the cause of faciocutaneoskeletal syndrome (FCSS) [MIM:218040]. A rare condition characterized by prenatally increased growth, postnatal growth deficiency, mental retardation, distinctive facial appearance, cardiovascular abnormalities (typically pulmonic stenosis, hypertrophic cardiomyopathy and/or atrial tachycardia), tumor predisposition, skin and musculoskeletal abnormalities.
Defects in HRAS are the cause of congenital myopathy with excess of muscle spindles (CMEMS) [MIM:218040]. CMEMS is a variant of Costello syndrome.
Defects in HRAS may be a cause of susceptibility to Hurthle cell thyroid carcinoma (HCTC) [MIM:607464]. Hurthle cell thyroid carcinoma accounts for approximately 3% of all thyroid cancers. Although they are classified as variants of follicular neoplasms, they are more often multifocal and somewhat more aggressive and are less likely to take up iodine than are other follicular neoplasms.
Note=Mutations which change positions 12, 13 or 61 activate the potential of HRAS to transform cultured cells and are implicated in a variety of human tumors.
Defects in HRAS are a cause of susceptibility to bladder cancer (BLC) [MIM:109800]. A malignancy originating in tissues of the urinary bladder. It often presents with multiple tumors appearing at different times and at different sites in the bladder. Most bladder cancers are transitional cell carcinomas. They begin in cells that normally make up the inner lining of the bladder. Other types of bladder cancer include squamous cell carcinoma (cancer that begins in thin, flat cells) and adenocarcinoma (cancer that begins in cells that make and release mucus and other fluids). Bladder cancer is a complex disorder with both genetic and environmental influences.
Note=Defects in HRAS are the cause of oral squamous cell carcinoma (OSCC).

Sequence similarities Belongs to the small GTPase superfamily. Ras family.

Post-translational modifications Palmitoylated by the ZDHHC9-GOLGA7 complex. A continuous cycle of de- and re-palmitoylation regulates rapid exchange between plasma membrane and Golgi.
S-nitrosylated; critical for redox regulation. Important for stimulating guanine nucleotide exchange. No structural perturbation on nitrosylation.

Cellular localization	Cell membrane. Golgi apparatus membrane. The active GTP-bound form is localized most strongly to membranes than the inactive GDP-bound form (By similarity). Shuttles between the plasma membrane and the Golgi apparatus.

Images



Western blot - Anti-GTPase HRAS antibody [Y132] (ab32417)

All lanes : Anti-GTPase HRAS antibody [Y132] (ab32417) at 1/500 dilution

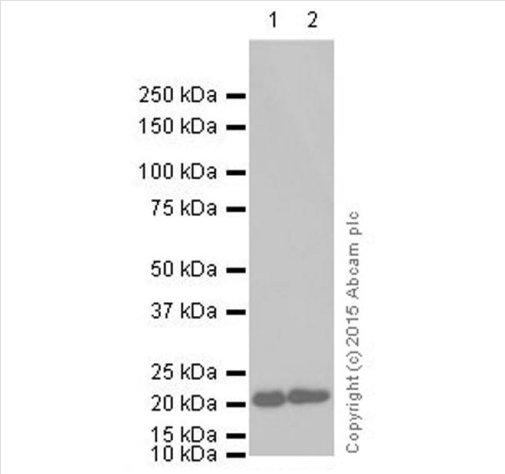
Lane 1 : Wild-type HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate
Lane 2 : HRAS knockout HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate
Lane 3 : HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate
Lane 4 : MCF7 (Human breast adenocarcinoma cell line) whole cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Lanes 1 - 4: Merged signal (red and green). Green - ab32417 observed at 21 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

ab32417 was shown to recognize HRAS in wild-type HEK-293 cells as signal was lost at the expected MW in HRAS knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and HRAS knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. Ab32417 and **ab8245** (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/500 dilution and 1/20000 dilution respectively. Blots were developed 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 1/20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-GTPase HRAS antibody [Y132] (ab32417)

All lanes : Anti-GTPase HRAS antibody [Y132] (ab32417) at 1/2500 dilution (purified)

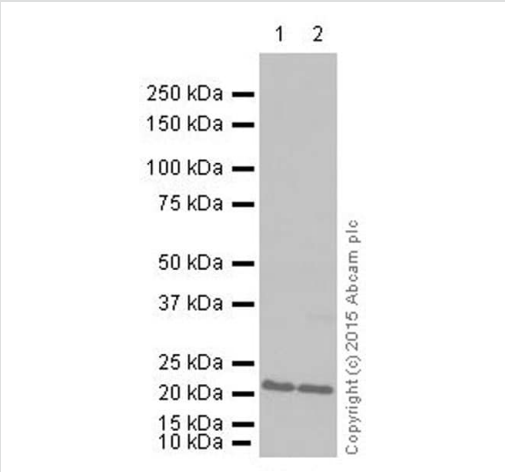
Lane 1 : mouse brain lysate
Lane 2 : rat brain lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : HRP goat anti-rabbit IgG (H+L) at 1/20000 dilution

Observed band size: 21 kDa

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST



Western blot - Anti-GTPase HRAS antibody [Y132] (ab32417)

All lanes : Anti-GTPase HRAS antibody [Y132] (ab32417) at 1/1000 dilution (purified)

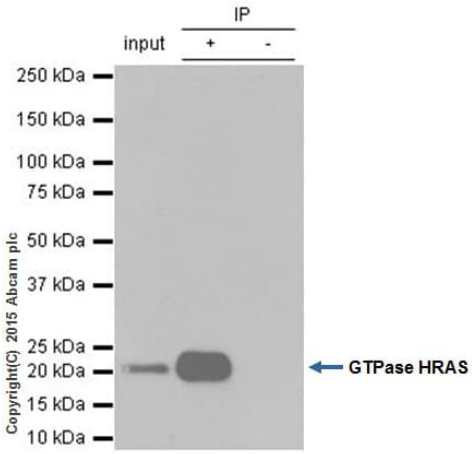
Lane 1 : MCF7 cell lysate
Lane 2 : HeLa cell lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : HRP goat anti-rabbit IgG (H+L) at 1/20000 dilution

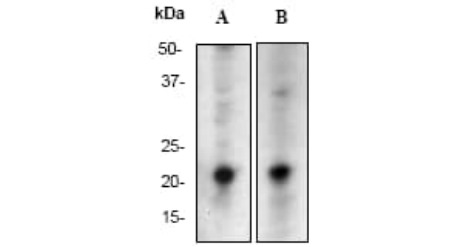
Observed band size: 21 kDa

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST



Immunoprecipitation - Anti-GTPase HRAS antibody [Y132] (ab32417)

ab32417 (purified) at 1/60 immunoprecipitating GTPase in 10 µg mouse brain whole cell lysate (Lanes 1 and 2, observed at 21 kDa). Lane 3 - PBS. For western blotting, HRP Veriblot for IP Detection Reagent (**ab131366**) was used for detection (1/10 000). Blocking buffer and concentration: 5% NFDM/TBST Dilution buffer and concentration: 5% NFDM/TBST



Western blot - Anti-GTPase HRAS antibody [Y132] (ab32417)

All lanes : Anti-GTPase HRAS antibody [Y132] (ab32417) at 1/500 dilution (unpurified)

Lane 1 : MCF7 cell lysate
Lane 2 : PC12 cell lysate

Observed band size: 21 kDa

Anti-GTPase HRAS antibody [Y132] (ab32417)

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