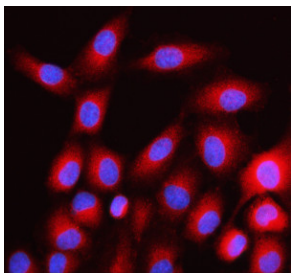
# HRAS Antibody / HRas Proto-Oncogene GTPase Antibody (R32655)

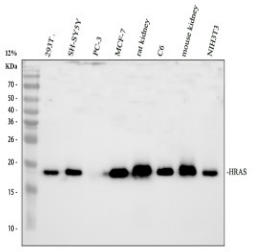
| Catalog No. | Formulation | Size |
|---|---|---|
| R32655 | 0.5mg/ml if reconstituted with 0.2ml sterile DI water | 100 ug |

**Bulk quote request**

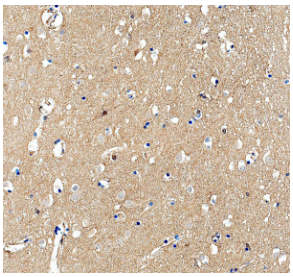
| | |
|---|---|
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Antigen affinity purified |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit IgG |
| **Purity** | Antigen affinity |
| **Buffer** | Lyophilized from 1X PBS with 2% Trehalose |
| **UniProt** | P01112 |
| **Applications** | Western blot: 0.5-1ug/ml<br>Immunohistochemistry (FFPE): 2-5ug/ml<br>Immunofluorescence: 5ug/ml<br>Immunoprecipitation: 2ug per 500ug of lysate |
| **Limitations** | This HRAS Antibody / HRas Proto-Oncogene GTPase Antibody is available for research use only. |



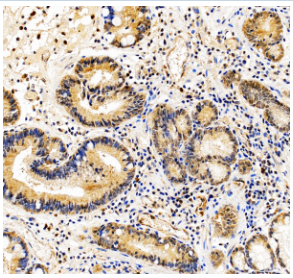
HRAS Antibody in Human A549 Lung Cancer Cells IF. Immunofluorescence staining of human A549 lung cancer cells with HRAS Antibody / HRas Proto-Oncogene GTPase Antibody at 5 ug/ml. Enzyme-mediated antigen retrieval was performed for 15 min, followed by blocking with 10% goat serum. Cells were incubated with the primary antibody overnight at 4oC. Cy3-conjugated goat anti-rabbit IgG was used as the secondary antibody at 1:500 for 30 min at 37oC, and nuclei were counterstained with DAPI (blue). HRAS staining (red) is observed predominantly in the cytoplasmic and perinuclear regions. This HRAS Antibody enables visualization of HRas proto-oncogene GTPase expression and localization in human lung cancer cells.



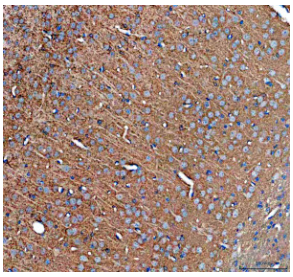

HRAS Antibody in Human, Rat and Mouse Samples WB. Western blot testing of HRAS Antibody / HRas Proto-Oncogene GTPase Antibody using lysates from 1) human 293T cells, 2) human SH-SY5Y neuroblastoma cells, 3) human PC-3 prostate cancer cells, 4) human MCF-7 breast cancer cells, 5) rat kidney, 6) rat C6 glioma cells, 7) mouse kidney and 8) mouse NIH3T3 cells. The antibody was used at 0.5 ug/ml overnight at 4oC, followed by goat anti-rabbit IgG-HRP at 1:5000 and ECL detection. A specific band is detected at approximately 18 kDa, consistent with the expected 18-21 kDa range for HRAS. This HRAS Antibody demonstrates detection of HRas proto-oncogene GTPase in human, rat and mouse samples.



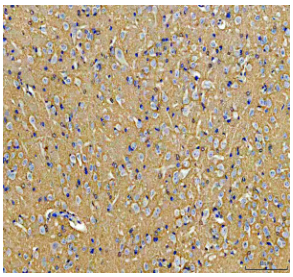
HRAS Antibody in Human Cerebral Cortex IHC. Immunohistochemistry staining of FFPE human cerebral cortex tissue with HRAS Antibody / HRas Proto-Oncogene GTPase Antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed in EDTA buffer, pH 8.0, followed by blocking with 10% goat serum. The tissue was incubated with the primary antibody overnight at 4oC, followed by a peroxidase-conjugated goat anti-rabbit IgG secondary antibody for 30 min at 37oC and DAB detection. HRAS staining is observed throughout the cerebral cortex. This HRAS Antibody demonstrates detection of HRas proto-oncogene GTPase in human brain tissue.



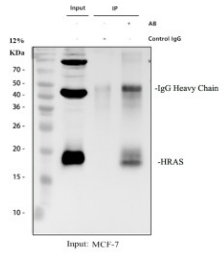
HRAS Antibody in Human Stomach IHC. Immunohistochemistry staining of FFPE human stomach tissue with HRAS Antibody / HRas Proto-Oncogene GTPase Antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed in EDTA buffer, pH 8.0, followed by blocking with 10% goat serum. The tissue was incubated with the primary antibody overnight at 4oC, followed by a peroxidase-conjugated goat anti-rabbit IgG secondary antibody for 30 min at 37oC and DAB detection. HRAS staining is observed in the gastric glandular epithelium. This HRAS Antibody demonstrates detection of HRas proto-oncogene GTPase in human stomach tissue.



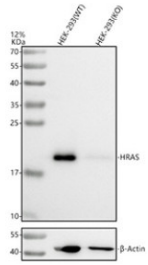
HRAS Antibody in Mouse Brain IHC. Immunohistochemistry staining of FFPE mouse brain tissue with HRAS Antibody / HRas Proto-Oncogene GTPase Antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed in EDTA buffer, pH 8.0, followed by blocking with 10% goat serum. The tissue was incubated with the primary antibody overnight at 4oC, followed by a peroxidase-conjugated goat anti-rabbit IgG secondary antibody for 30 min at 37oC and DAB detection. HRAS staining is observed throughout the brain tissue, including neuronal populations. This HRAS Antibody demonstrates detection of HRas proto-oncogene GTPase in mouse brain tissue.



HRAS Antibody in Rat Brain IHC. Immunohistochemistry staining of FFPE rat brain tissue with HRAS Antibody / HRas Proto-Oncogene GTPase Antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed in EDTA buffer, pH 8.0, followed by blocking with 10% goat serum. The tissue was incubated with the primary antibody overnight at 4oC, followed by a peroxidase-conjugated goat anti-rabbit IgG secondary antibody for 30 min at 37oC and DAB detection. HRAS staining is observed throughout the brain tissue, including neuronal populations. This HRAS Antibody demonstrates detection of HRas proto-oncogene GTPase in rat brain tissue.




HRAS Antibody Immunoprecipitation from Human MCF-7 Breast Cancer Cells IP. Immunoprecipitation of HRAS from human MCF-7 breast cancer whole cell lysate was performed using HRAS Antibody / HRas Proto-Oncogene GTPase Antibody. Lane 1 contains 30 ug of MCF-7 whole cell lysate, lane 2 is the rabbit IgG control and lane 3 contains HRAS immunoprecipitated from 500 ug of MCF-7 lysate using 2 ug of antibody. Western blot detection was performed with the antibody at 0.5 ug/ml followed by goat anti-rabbit IgG-HRP and ECL detection. A specific HRAS band is detected at approximately 18 kDa, consistent with the expected 18-21 kDa range. This HRAS Antibody demonstrates immunoprecipitation of HRas proto-oncogene GTPase from human breast cancer cells.




HRAS Antibody WB in HEK293 Wild-Type and HRAS Knockout Cells. Western blot analysis of human HEK293 wild-type (lane 1) and HRAS knockout (lane 2) whole-cell lysates using the HRas Proto-Oncogene GTPase Antibody. A prominent band at approximately 18-20 kDa is detected in wild-type cells and is substantially reduced in the knockout sample, with faint residual signal at the corresponding position. The predicted molecular weight of HRAS is approximately 21 kDa. Samples were loaded at 30 ug per lane and separated by 12% SDS-PAGE under reducing conditions. The primary antibody was used at 0.5 ug/ml, with beta-actin serving as the loading control.

## Description

HRAS Antibody / HRas Proto-Oncogene GTPase Antibody targets HRAS, a membrane-associated small GTPase and founding member of the RAS family of proto-oncogenes. Originally identified through studies of the Harvey rat sarcoma virus, HRAS is closely related to KRAS and NRAS and functions as a molecular switch controlling signal transmission from activated cell-surface receptors. The HRAS protein cycles between an inactive GDP-bound state and an active GTP-bound state, allowing extracellular signals to regulate proliferation, differentiation, survival and other cellular processes.

Activation of receptor tyrosine kinases and other upstream signaling proteins promotes the exchange of GDP for GTP on HRAS. GTP-bound HRAS interacts with downstream effectors, including RAF kinases, leading to activation of the RAF-MEK-ERK pathway. HRAS also participates in signaling through PI3K-AKT and other effector networks. GTPase-activating proteins normally accelerate GTP hydrolysis and return HRAS to its inactive state, providing an important mechanism for limiting RAS signaling. An HRAS Antibody can therefore support research into RAS pathway activity, growth factor signaling and mechanisms controlling cellular proliferation.

HRAS is a well-established proto-oncogene, and activating mutations can impair normal GTP hydrolysis, resulting in persistent signaling from the GTP-bound protein. Oncogenic HRAS signaling can drive uncontrolled cell growth and transformation through sustained activation of downstream pathways. HRAS mutations have been identified in several tumor types, including cancers of the bladder, thyroid, head and neck, and other tissues. Altered RAS signaling is consequently an important area of cancer biology and targeted therapy research.

Beyond cancer, germline variants affecting HRAS are associated with Costello syndrome, a developmental disorder belonging to the group of conditions known as RASopathies. These findings illustrate the importance of precisely regulated HRAS activity during development as well as in adult tissues. Studies of H-RAS expression, localization and signaling can provide insight into how normal and aberrant RAS activity influences cell fate, proliferation and disease-associated signaling networks.

NSJ Bioreagents provides antibodies for research into RAS signaling, oncogenic pathways and cellular growth regulation. An HRas Proto-Oncogene GTPase Antibody can be used to investigate HRAS expression in studies of RAS/MAPK signaling, cancer biology, growth factor responses and related mechanisms of signal transduction.

HRAS functions as a central molecular switch connecting activated cell-surface receptors with downstream pathways such as RAF-MEK-ERK; explore related signaling targets on our Signal Transduction Antibodies page.

## Application Notes

Optimal dilution of the HRAS Antibody / HRas Proto-Oncogene GTPase Antibody should be determined by the researcher.

## Immunogen

Amino acids 111-137 (MVLVGNKCDLAARTVESRQAQDLARSY) from the human protein were used as the immunogen for the HRAS antibody.

## Storage

After reconstitution, the HRAS antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.


Copyright © NSJ Bioreagents. All rights reserved.