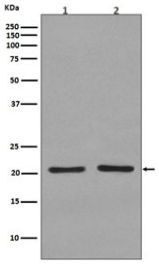
KRAS/HRAS/NRAS Antibody EBE-14 / Pan-RAS Monoclonal Antibody [clone EBE-14] (RQ4864)

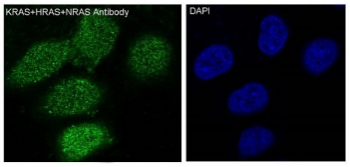
Catalog No.	Formulation	Size
RQ4864	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

Bulk quote request

Species Reactivity	Human, Rat
Format	Purified
Host	Rabbit
Clonality	Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	EBE-14
Purity	Affinity purified
UniProt	P01111
Applications	Western blot: 1:500-1:2000 Immunofluorescence/Immunocytochemistry: 1:50-1:200
Limitations	This KRAS/HRAS/NRAS Antibody EBE-14 / Pan-RAS Monoclonal Antibody is available for research use only.



KRAS/HRAS/NRAS Antibody EBE-14 WB in Human 293T and Rat C6 Cells. Western blot analysis of human 293T (lane 1) and rat C6 (lane 2) cell lysates using the Pan-RAS Monoclonal Antibody clone EBE-14. A distinct band is detected at approximately 21 kDa in both samples, consistent with the predicted molecular weight of classical RAS proteins. Because the antibody recognizes KRAS, HRAS, and NRAS, the detected bands cannot be assigned to an individual RAS family member.



KRAS/HRAS/NRAS Antibody EBE-14 IF in Human HeLa Cells. Immunofluorescence staining of human HeLa cells using the Pan-RAS Monoclonal Antibody clone EBE-14 (green), with DAPI nuclear counterstaining (blue). RAS-associated fluorescence is observed predominantly in the cytoplasm, with a granular distribution and comparatively limited nuclear staining. The signal represents combined recognition of classical RAS proteins rather than a specific RAS isoform.

Description

KRAS/HRAS/NRAS Antibody EBE-14 / Pan-RAS Monoclonal Antibody recognizes members of the classical RAS protein family, including KRAS, HRAS, and NRAS. These closely related small GTPases function as molecular switches that regulate intracellular signaling pathways involved in cell proliferation, differentiation, survival, and metabolism. The three proteins share extensive sequence similarity, particularly within their conserved GTP-binding domains, but differ in their C-terminal regions and membrane-targeting mechanisms. Their overlapping and distinct biological functions contribute to the regulation of cellular responses to growth factors and other extracellular stimuli.

RAS proteins cycle between inactive GDP-bound and active GTP-bound conformations. Activation commonly occurs downstream of receptor tyrosine kinases, which recruit adaptor proteins and guanine nucleotide exchange factors such as SOS1. These exchange factors promote GTP loading and enable RAS proteins to interact with downstream effectors. The RAF-MEK-ERK signaling cascade is a major pathway activated by RAS and regulates transcriptional programs associated with cell growth and division. RAS proteins also engage PI3K and other effectors that influence cellular survival, metabolism, and cytoskeletal organization. GTPase-activating proteins accelerate GTP hydrolysis, helping terminate signaling and restore the inactive state.

Although KRAS, HRAS, and NRAS share common signaling mechanisms, their membrane localization and regulatory interactions differ. KRAS produces two major splice variants, KRAS4A and KRAS4B, which have distinct C-terminal membrane-targeting sequences. HRAS undergoes lipid modifications that influence its distribution among cellular membranes, while NRAS exhibits its own trafficking and localization characteristics. These differences can affect access to signaling partners and contribute to context-dependent biological responses. The relative expression and activation of individual RAS proteins also vary among cellular environments.

Activating mutations in RAS genes are important drivers of human cancer. KRAS mutations are especially prevalent in pancreatic, colorectal, and lung cancers, while NRAS alterations are frequently associated with melanoma and certain hematologic malignancies. HRAS mutations occur in several tumor types, including subsets of head and neck and bladder cancers. Oncogenic mutations commonly impair normal GTPase regulation, resulting in persistent downstream signaling. Because multiple RAS proteins can contribute to shared signaling networks, their combined expression is relevant to investigations of pathway regulation and oncogenic transformation. This KRAS/HRAS/NRAS Antibody EBE-14 provides a reagent for examining classical RAS protein expression and the molecular mechanisms underlying RAS-dependent signaling.

Explore our KRAS Antibody for additional research into Kirsten Ras protein expression and RAS-dependent signaling, with Western blot validation using A549 wild-type and KRAS knockout cell lysates.

Application Notes

Optimal dilution of the KRAS/HRAS/NRAS Antibody EBE-14 / Pan-RAS Monoclonal Antibody should be determined by the researcher.

Immunogen

A synthetic peptide common to human KRAS/HRAS/NRAS was used as the immunogen for the KRAS/HRAS/NRAS antibody.

Storage

Store the KRAS/HRAS/NRAS antibody at -20oC.

Alternate Names

Pan-Ras antibody, Pan-RAS protein antibody, KRAS HRAS NRAS antibody, RAS family antibody, RAS GTPase

antibody, Ras p21 antibody, RAS proto-oncogene antibody, RAS family protein antibody

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