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Product Information

Anti-NRAS (internal) antibody produced in rabbit
Affinity isolated antibody

Product Number **SAB4200778**

Product Description

The Anti-NRAS (internal) antibody is developed in rabbit using a synthetic peptide corresponding to the internal region of human NRAS, conjugated to KLH as the immunogen (GeneID: 4893). The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-NRAS (internal) antibody produced in rabbit specifically recognizes human NRAS and does not cross-react with KRAS. The antibody may be used in various immunochemical techniques including immunoblotting (predicted ~21 kDa) and immunohistochemistry. Detection of the NRAS band by Immunoblotting is specifically inhibited by the immunizing protein.

NRAS, also known as GTPase NRas, Transforming protein N-Ras, or Neuroblastoma RAS Viral (V-Ras) Oncogene Homolog, is a member of the Ras protein family, together with KRAS (Kirsten RAS), and HRAS (Harvey RAS), comprising a family of low-molecular-weight GTPases.[1] The Ras family is named for a retrovirus that induced rat sarcomas that were later found to have activating RAS mutations.[2] Ras family proteins serve as molecular switches in regulating pathways that are responsible for diverse cellular processes such as proliferation, differentiation, migration, and apoptosis.[3] Ras proteins are highly homologous regarding their primary amino acid sequence and the differences among them concentrated in their C-terminal region.[4]

NRAS was the first melanoma oncogene to be identified. Oncogenic NRAS mutations are single base substitutions (most commonly affecting residues G12, G13, or Q61) that lead to the stabilization of GTP binding, and constitutive activation of RAS and downstream signaling cascades.[5] Abnormal NRAS activity stimulates several signaling pathways, including MAPK/ERK, RAFs (ARAF, BRAF, and CRAF), phosphatidylinositol 3-kinase (PI3K), and the RAS-like protein (RAL) GEFs signaling pathways, and leads to uncontrolled cell proliferation, resistance to apoptosis and thus cancer therapy potential target.[6-7]

NRAS mutations are present in various cancers, including melanomas, acute myeloid leukemia, colon, thyroid, and lung cancers, in hematologic malignancies, including acute lymphocytic leukemia, myelodysplastic syndrome, multiple myeloma, and chronic myelomonocytic leukemia.[1]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 2.5–5 μg/mL is recommended using human MCF7 cell line extract.

Immunohistochemistry: a working concentration of 10-20 μg/mL is recommended using heat-retrieved formalin-fixed, paraffin-embedded human melanoma sections.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration test.

References

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