

# K-Ras-2A (C-17): sc-522

## BACKGROUND

The mammalian Ras (also designated v-Ha-Ras, Harvey rat sarcoma viral on-cogene homolog, HRAS1, K-Ras, N-Ras, RASH1 or c-bas/has) gene family consists of the Harvey and Kirsten Ras genes (c-H-Ras1 and c-K-Ras2), an inactive pseudogene of each (c-H-Ras2 and c-K-Ras1) and the N-Ras gene. The three Ras oncogenes, H-Ras, K-Ras and N-Ras, encode proteins with GTP/GDP binding and GTPase activity. Ras proteins alternate between an inactive form bound to GDP and an active form bound to GTP, activated by a guanine nucleotide-exchange factor (GEF) and inactivated by a GTPase-activating protein (GAP). Ras nomenclature originates from the characterization of human DNA sequences homologous to cloned DNA fragments containing oncogenic sequences of a type C mammalian retrovirus, the Harvey strain of murine sarcoma virus (HaMSV), derived from the rat. Under normal conditions, Ras family members influence cell growth and differentiation events in a subcellular membrane compartmentalization-based signaling system. Oncogenic Ras can deregulate processes that control both cell proliferation and apoptosis. The Ras superfamily of GTP hydrolysis-coupled signal transduction relay proteins can be subclassified into Ras, Rho, Rab and ARF families.

## CHROMOSOMAL LOCATION

Genetic locus: KRAS (human) mapping to 12p12.1; Kras (mouse) mapping to 6 G3.

## SOURCE

K-Ras-2A (C-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of K-Ras-2A of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-522 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

K-Ras-2A (C-17) is recommended for detection of K-Ras-2A p21 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

K-Ras-2A (C-17) is also recommended for detection of K-Ras-2A p21 in additional species, including equine.

Suitable for use as control antibody for K-Ras-2A siRNA (h2): sc-43874, K-Ras siRNA (m): sc-43876, K-Ras-2A shRNA Plasmid (h2): sc-43874-SH, K-Ras shRNA Plasmid (m): sc-43876-SH, K-Ras-2A shRNA (h2) Lentiviral Particles: sc-43874-V and K-Ras shRNA (m) Lentiviral Particles: sc-43876-V.

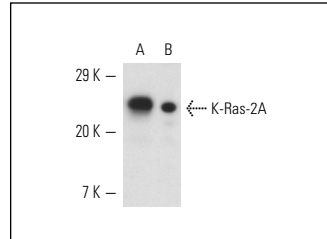
Molecular Weight of K-Ras-2A: 24 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214 or Jurkat whole cell lysate: sc-2204.

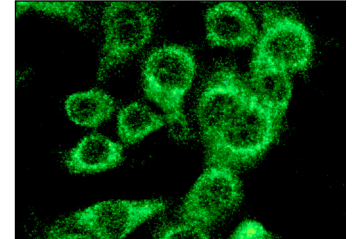
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



K-Ras-2A (C-17): sc-522. Western blot analysis of K-Ras-2A expression in KNRK (A) and Jurkat (B) whole cell lysates.



K-Ras-2A (C-17): sc-522. Immunofluorescence staining of methanol-fixed Sol8 cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Pells, S., et al. 1997. Developmentally regulated expression of murine K-Ras isoforms. *Oncogene* 15: 1781-1786.
- Sidhu, R.S., et al. 2003. Ca<sup>2+</sup>/calmodulin binds and dissociates K-RasB from membrane. *Biochem. Biophys. Res. Commun.* 304: 655-660.
- Caulin, C., et al. 2004. Inducible activation of oncogenic K-Ras results in tumor formation in the oral cavity. *Cancer Res.* 64: 5054-5058.
- Tong, Q., et al. 2004. Regulation of Na<sup>+</sup> transport by aldosterone: signaling convergence and cross talk between the PI3-K and MAPK1/2 cascades. *Am. J. Physiol. Renal Physiol.* 286: F1232-F1238.
- Zheng, Y., et al. 2009. FAK phosphorylation by ERK primes ras-induced tyrosine dephosphorylation of FAK mediated by PIN1 and PTP-PEST. *Mol. Cell* 35: 11-25.
- Fuentes-Calvo, I., et al. 2010. Analysis of k-ras nuclear expression in fibroblasts and mesangial cells. *PLoS ONE* 5: e8703.
- Zhu, H., et al. 2011. EGFR signals downregulate tumor suppressors miR-143 and miR-145 in Western diet-promoted murine colon cancer: role of G<sub>1</sub> regulators. *Mol. Cancer Res.* 9: 960-975.
- Callaway, J.B., et al. 2015. Spleen tyrosine kinase (Syk) mediates IL-1 induction by primary human monocytes during antibody-enhanced dengue virus infection. *J. Biol. Chem.* 290: 17306-17320.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.


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