

K-Ras (F234): sc-30

BACKGROUND

The mammalian Ras (also designated v-Ha-Ras, Harvey rat sarcoma viral oncogene 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 (F234) is a mouse monoclonal antibody raised against recombinant encompassing amino acids 54-189 of K-Ras protein of rat origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

K-Ras (F234) is recommended for detection of c-K-Ras and v-K-Ras 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); may cross-react with c-H-Ras and c-N-Ras.

Suitable for use as control antibody for K-Ras siRNA (h): sc-35731, K-Ras siRNA (m): sc-43876, K-Ras shRNA Plasmid (h): sc-35731-SH, K-Ras shRNA Plasmid (m): sc-43876-SH, K-Ras shRNA (h) Lentiviral Particles: sc-35731-V and K-Ras shRNA (m) Lentiviral Particles: sc-43876-V.

Molecular Weight of K-Ras: 21 kDa.

Positive Controls: K-Ras (h): 293 Lysate: sc-111225, KNRK whole cell lysate: sc-2214 or NRK whole cell lysate: sc-364197.

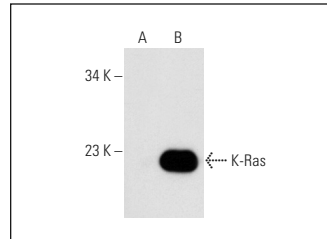
STORAGE

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

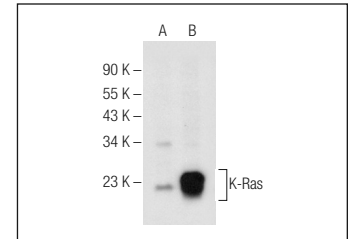
RESEARCH USE

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

DATA



K-Ras (F234): sc-30. Western blot analysis of K-Ras expression in non-transfected: sc-110760 (A) and human K-Ras transfected: sc-111225 (B) 293 whole cell lysates.



K-Ras (F234): sc-30. Western blot analysis of K-Ras expression in NRK (A) and KNRK (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nevoral, V. and Okác, A. 1966. The determination of vanadium traces in mineral waters. *Cesk. Farm.* 15: 229-231.
2. Dias, M.H., et al. 2018. Fibroblast growth factor 2 lethally sensitizes cancer cells to stress-targeted therapeutic inhibitors. *Mol. Oncol.* 13: 290-306.
3. Zheng, Z.Y., et al. 2018. Induction of N-Ras degradation by flunarizine-mediated autophagy. *Sci. Rep.* 8: 16932.
4. Santana-Codina, N., et al. 2018. Oncogenic K-Ras supports pancreatic cancer through regulation of nucleotide synthesis. *Nat. Commun.* 9: 4945.
5. Fei, Q., et al. 2018. HMGB1-RAGE signaling facilitates Ras-dependent Yap1 expression to drive colorectal cancer stemness and development. *Mol. Carcinog.* E-published.
6. Zhang, F. and Cao, H. 2019. MicroRNA-143-3p suppresses cell growth and invasion in laryngeal squamous cell carcinoma via targeting the K-Ras/Raf/MEK/ERK signaling pathway. *Int. J. Oncol.* 54: 689-701.
7. Liu, H., et al. 2019. K-Ras-enhanced macropinocytosis and reduced FcRn-mediated recycling sensitize pancreatic cancer to albumin-conjugated drugs. *J. Control. Release* 296: 40-53.
8. Jeong, W.J., et al. 2019. WDR76 is a Ras binding protein that functions as a tumor suppressor via Ras degradation. *Nat. Commun.* 10: 295.
9. Guo, L., et al. 2019. MicroRNA-98 suppresses cell growth and invasion of retinoblastoma via targeting the IGF1R/K-Ras/Raf/MEK/ERK signaling pathway. *Int. J. Oncol.* 54: 807-820.
10. Román, M., et al. 2019. Inhibitor of differentiation-1 sustains mutant K-Ras-driven progression, maintenance, and metastasis of lung adenocarcinoma via regulation of a FOSL1 network. *Cancer Res.* 79: 625-638.

CONJUGATES

See **pan Ras (C-4): sc-166691** for pan Ras antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.