SANTA CRUZ BIOTECHNOLOGY, INC.

A-Raf (A-5): sc-166771

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Several serine/threonine protein kinases have been implicated as intermediates in signal transduction pathways. These include ERK/MAP kinases, ribosomal S6 kinase (Rsk) and Raf-1. Raf-1 is a cytoplasmic protein with intrinsic serine/threonine activity. It is broadly expressed in nearly all cell lines tested to date and is the cellular homolog of v-Raf, the product of the transforming gene of the 3,611 strain of murine sarcoma virus. The unregulated kinase activity of the v-Raf protein has been associated with transformation and mitogenesis while the activity of Raf-1 is normally suppressed by a regulatory N-terminal domain. A-Raf, a second member of the Raf gene family of serine/threonine protein kinases, exhibits substantial homology to Raf-1 within the kinase domain of the two molecules, but less homology elsewhere. Expression of A-Raf is found at highest levels in urogenital tissues and kidney and at lowest level in brain tissue.

CHROMOSOMAL LOCATION

Genetic locus: ARAF (human) mapping to Xp11.23; Araf (mouse) mapping to X A1.3.

SOURCE

A-Raf (A-5) is a mouse monoclonal antibody raised against amino acids 141-210 mapping within an internal region of A-Raf of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

A-Raf (A-5) is available conjugated to agarose (sc-166771 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166771 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166771 PE), fluorescein (sc-166771 FITC), Alexa Fluor® 488 (sc-166771 AF488), Alexa Fluor® 546 (sc-166771 AF546), Alexa Fluor® 594 (sc-166771 AF594) or Alexa Fluor® 647 (sc-166771 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166771 AF680) or Alexa Fluor® 790 (sc-166771 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

A-Raf (A-5) is recommended for detection of A-Raf of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for A-Raf siRNA (h): sc-29615, A-Raf siRNA (m): sc-29616, A-Raf shRNA Plasmid (h): sc-29615-SH, A-Raf shRNA Plasmid (m): sc-29616-SH, A-Raf shRNA (h) Lentiviral Particles: sc-29615-V and A-Raf shRNA (m) Lentiviral Particles: sc-29616-V.

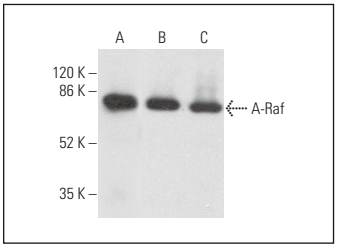
Molecular Weight of A-Raf: 68 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, A-673 cell lysate: sc-2414 or K-562 whole cell lysate: sc-2203.

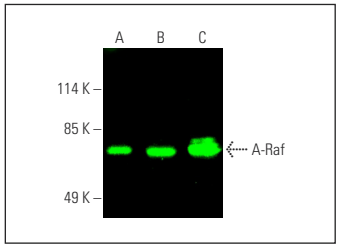
STORAGE

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

DATA



A-Raf (A-5): sc-166771. Western blot analysis of A-Raf expression in K-562 (**A**), Raji (**B**) and A-673 (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



A-Raf (A-5): sc-166771. Near-infrared western blot analysis of A-Raf expression in Raji (**A**), SW480 (**B**) and K-562 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Hwang, H.W., et al. 2017. CTag-PAPERCLIP reveals alternative polyadenylation promotes cell-type specific protein diversity and shifts Araf isoforms with microglia activation. Neuron 95: 1334-1349.
2. Schneider, T., et al. 2018. The E3 ubiquitin ligase HERC1 controls the ERK signaling pathway targeting C-RAF for degradation. Oncotarget 9: 31531-31548.
3. Miao, W. and Wang, Y. 2019. Quantitative interrogation of the human kinome perturbed by two BRAF inhibitors. J. Proteome Res. 18: 2624-2631.
4. Jones, G.G., et al. 2019. SHOC2 phosphatase-dependent RAF dimerization mediates resistance to MEK inhibition in RAS-mutant cancers. Nat. Commun. 10: 2532.
5. Ozkan-Dagliyan, I., et al. 2020. Low-dose vertical inhibition of the RAF-MEK-ERK cascade causes apoptotic death of KRAS mutant cancers. Cell Rep. 31: 107764.
6. Posternak, G., et al. 2020. Functional characterization of a PROTAC directed against BRAF mutant V600E. Nat. Chem. Biol. 16: 1170-1178.
7. Pedrazza, L., et al. 2020. The ubiquitin ligase HERC1 regulates cell migration via RAF-dependent regulation of MKK3/p38 signaling. Sci. Rep. 10: 824.
8. Yen, I., et al. 2021. ARAF mutations confer resistance to the RAF inhibitor belvarafenib in melanoma. Nature 594: 418-423.
9. Venkatanarayan, A., et al. 2022. CRAF dimerization with ARAF regulates KRAS-driven tumor growth. Cell Rep. 38: 110351.
10. Sala-Gaston, J., et al. 2022. HERC2 deficiency activates C-RAF/MKK3/p38 signalling pathway altering the cellular response to oxidative stress. Cell. Mol. Life Sci. 79: 548.

RESEARCH USE

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