SANTA CRUZ BIOTECHNOLOGY, INC.

CRIF1 (H-9): sc-374122

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CRIF1, also known as GADD45GIP1, PLINP1, PRG6 or CKBBP2, is a 222 amino acid nuclear protein that plays a role in apoptosis control. Expressed in a variety of tissues, including heart, thyroid, trachea, kidney, ovary, pancreas, testis and stomach, CRIF1 functions as a negative regulator of G_1 to S phase cell cycle production, specifically by working with GADD 45 proteins to inhibit the activity of cyclin-dependent kinases (Cdks). While overexpression of CRIF1 results in cell cycle arrest at the G_1 phase, downregulation of CRIF1 by p53 in apoptotic cells promotes cell cycle progression and may be an important factor in tumor growth and metastasis. CRIF1 is subject to phosphorylation by casein kinase II, an event that is thought to decrease CRIF1 activity and promote cellular proliferation. Human CRIF1 shares 90% homology with its mouse counterpart, suggesting a conserved role between species.

CHROMOSOMAL LOCATION

Genetic locus: GADD45GIP1 (human) mapping to 19p13.2; Gadd45gip1 (mouse) mapping to 8 C3.

SOURCE

CRIF1 (H-9) is a mouse monoclonal antibody raised against amino acids 1-222 representing full length CRIF1 of mouse 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.

CRIF1 (H-9) is available conjugated to agarose (sc-374122 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374122 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374122 PE), fluorescein (sc-374122 FITC), Alexa Fluor® 488 (sc-374122 AF488), Alexa Fluor® 546 (sc-374122 AF546), Alexa Fluor® 594 (sc-374122 AF594) or Alexa Fluor® 647 (sc-374122 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374122 AF680) or Alexa Fluor® 790 (sc-374122 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CRIF1 (H-9) is recommended for detection of CRIF1 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 CRIF1 siRNA (h): sc-97804, CRIF1 siRNA (m): sc-105245, CRIF1 shRNA Plasmid (h): sc-97804-SH, CRIF1 shRNA Plasmid (m): sc-105245-SH, CRIF1 shRNA (h) Lentiviral Particles: sc-97804-V and CRIF1 shRNA (m) Lentiviral Particles: sc-105245-V.

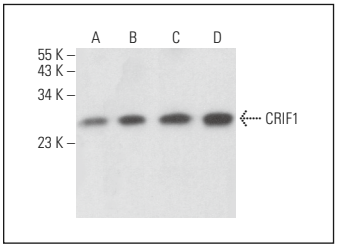
Molecular Weight of CRIF1: 28 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or NIH/3T3 whole cell lysate: sc-2210.

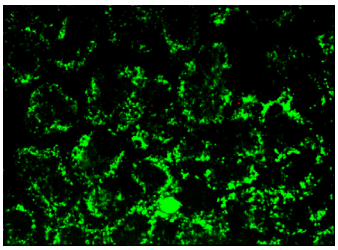
STORAGE

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

DATA



CRIF1 (H-9): sc-374122. Western blot analysis of CRIF1 expression in A-431 (**A**), HeLa (**B**), NIH/3T3 (**C**) and HEK293 (**D**) whole cell lysates.



CRIF1 (H-9): sc-374122. Immunofluorescence staining of formalin-fixed A-431 cells showing mitochondrial localization.

SELECT PRODUCT CITATIONS

1. Chung, H.K., et al. 2017. Growth differentiation factor 15 is a myomitokine governing systemic energy homeostasis. J. Cell Biol. 216: 149-165.
2. Yan, H.X., et al. 2017. CRIF1 enhances p53 activity via the chromatin remodeler SNF5 in the HCT116 colon cancer cell lines. Biochim. Biophys. Acta 1860: 516-522.
3. D'Amico, D., et al. 2019. The RNA-binding protein PUM2 impairs mitochondrial dynamics and mitophagy during aging. Mol. Cell 73: 775-787.e10.
4. Kim, S., et al. 2020. CR6 interacting factor 1 deficiency induces premature senescence via SIRT3 inhibition in endothelial cells. Free Radic. Biol. Med. 150: 161-171.
5. Lu, C., et al. 2021. Human X chromosome exome sequencing identifies BCORL1 as contributor to spermatogenesis. J. Med. Genet. 58: 56-65.
6. Lyu, A.R., et al. 2021. Hearing impairment in a mouse model of diabetes is associated with mitochondrial dysfunction, synaptopathy, and activation of the intrinsic apoptosis pathway. Int. J. Mol. Sci. 22: 8807.
7. Lee, I., et al. 2021. CRIF1 deficiency increased homocysteine production by disrupting dihydrofolate reductase expression in vascular endothelial cells. Antioxidants 10: 1645.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.