SANTA CRUZ BIOTECHNOLOGY, INC.

HIC-1 (H-6): sc-271499

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hypermethylated in cancer (HIC-1) was originally identified as a target of p53-induced gene expression. HIC-1 is deleted in the genetic disorder Miller-Dieker syndrome (MDS), and the expression of HIC-1 is also frequently suppressed in leukemia and various cancers due to the hypermethylation of specific DNA regions and the resulting transcriptional silencing. These and other studies indicate that HIC-1 acts as a putative tumor suppressor protein that mediates transcriptional repression. HIC-1 is ubiquitously expressed in adult tissues and its structure is defined by five zinc fingers and an N-terminal broad complex POZ (or BTB) domain. The BTB/POZ domain mediates homomeric and heteromeric POZ-POZ interactions and is common to transcriptional regulators involved in chromatin modeling. In several BTB/POZ containing proteins, including Bcl-6 and the promyelocytic leukemia zinc finger (PLZF) oncoprotein, this domain interacts with the SMRT/N-CoR-mSin3A HDAC complex and is directly involved in repressing and silencing gene transcription. When this domain is deleted, as with the oncogenic PLZF-RAR chimera of promyelocytic leukemias, this transcriptional repression is attenuated. Conversely, HIC-1 does not interact with components of the HDAC complex, suggesting that HIC-1-induced transcriptional repression is unassociated with the POZ/BTB domain.

CHROMOSOMAL LOCATION

Genetic locus: HIC1 (human) mapping to 17p13.3; Hic1 (mouse) mapping to 11 B5.

SOURCE

HIC-1 (H-6) is a mouse monoclonal antibody raised against amino acids 611-733 mapping at the C-terminus of HIC-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-271499 X, 200 µg/0.1 ml.

HIC-1 (H-6) is available conjugated to agarose (sc-271499 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271499 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271499 PE), fluorescein (sc-271499 FITC), Alexa Fluor® 488 (sc-271499 AF488), Alexa Fluor® 546 (sc-271499 AF546), Alexa Fluor® 594 (sc-271499 AF594) or Alexa Fluor® 647 (sc-271499 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271499 AF680) or Alexa Fluor® 790 (sc-271499 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

STORAGE

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

PROTOCOLS

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

APPLICATIONS

HIC-1 (H-6) is recommended for detection of HIC-1 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).

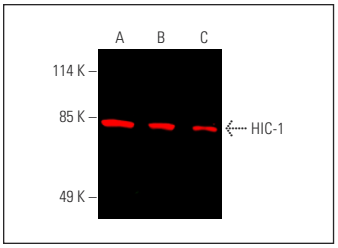
Suitable for use as control antibody for HIC-1 siRNA (h): sc-37712, HIC-1 siRNA (m): sc-37713, HIC-1 shRNA Plasmid (h): sc-37712-SH, HIC-1 shRNA Plasmid (m): sc-37713-SH, HIC-1 shRNA (h) Lentiviral Particles: sc-37712-V and HIC-1 shRNA (m) Lentiviral Particles: sc-37713-V.

HIC-1 (H-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

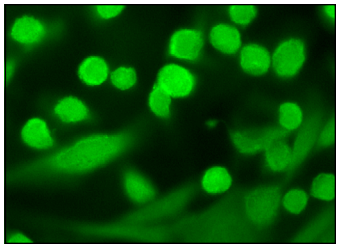
Molecular Weight of HIC-1: 76 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, HeLa nuclear extract: sc-2120 or KNRK whole cell lysate: sc-2214.

DATA



HIC-1 (H-6): sc-271499. Near-infrared western blot analysis of HIC-1 expression in Jurkat (**A**), HeLa (**B**) and A549 (**C**) nuclear extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



HIC-1 (H-6) Alexa Fluor® 488: sc-271499 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear or nuclear and cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2017. HIC-1 and miR-23~27~24 clusters form a double-negative feedback loop in breast cancer. Cell Death Differ. 24: 421-432.
2. Song, J.Y., et al. 2019. HIC-2, a new transcription activator of SIRT1. FEBS Lett. 593: 1763-1776.
3. Hou, Y., et al. 2020. PHF20L1 as a H3K27me2 reader coordinates with transcriptional repressors to promote breast tumorigenesis. Sci. Adv. 6: eaaz0356.
4. Yao, J., et al. 2021. FBXW11 contributes to stem-cell-like features and liver metastasis through regulating HIC-1-mediated SIRT1 transcription in colorectal cancer. Cell Death Dis. 12: 930.
5. Shah, S., et al. 2022. PRX1+ and HIC-1+ mesenchymal progenitors are present within the epidural fat and dura mater and participate in dural injury repair. Stem Cells Transl. Med. 11: 200-212.

RESEARCH USE

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