SANTA CRUZ BIOTECHNOLOGY, INC.

Herc1 (E-12): sc-393950

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The Power to Question

BACKGROUND

One of the largest human proteins, Herc1, also designated p532 or p619, is a 4,861 amino acid protein that contains a variety of functional domains, including WD repeats, RCC1 repeats, β-repeat domains and one HECT domain. Herc1 is ubiquitously expressed in human and mouse tissues and is overexpressed in several human tumor cell lines. It localizes to the cytosol and the Golgi apparatus, where it acts as a guanine nucleotide exchange factor on ARF1 and Rab proteins to mediate membrane trafficking. Herc1 also is involved in proliferation and growth through its interactions with Clathrin, M2-pyruvate kinase and TSC2 proteins. Mutations in the TSC2 protein allow for binding to Herc1 in the presence of TSC1, which destabilizes the TSC2 protein. This results in tuberous sclerosis complex (TSC), an autosomal dominant disease characterized by hamartoma formation in various organs.

REFERENCES

1. Rosa, J.L., et al. 1996. p619, a giant protein related to the chromosome condensation regulator RCC1, stimulates guanine nucleotide exchange on ARF1 and Rab proteins. EMBO J. 15: 4262-4273.
2. Rosa, J.L., et al. 1997. A giant protein that stimulates guanine nucleotide exchange on ARF1 and Rab proteins forms a cytosolic ternary complex with clathrin and Hsp70. Oncogene 15: 1-6.
3. Cruz, C., et al. 1999. Assignment of the human P532 gene (Herc1) to chromosome 15q22 by fluorescence *in situ* hybridization. Cytogenet. Cell Genet. 86: 68-69.
4. Garcia-Gonzalo, F.R., et al. 2003. Interaction between Herc1 and M2-type pyruvate kinase. FEBS Lett. 539: 78-84.
5. Garcia-Gonzalo, F.R., et al. 2004. The giant protein HERC1 is recruited to aluminum fluoride-induced Actin-rich surface protrusions in HeLa cells. FEBS Lett. 559: 77-83.

CHROMOSOMAL LOCATION

Genetic locus: HERC1 (human) mapping to 15q22.31; Herc1 (mouse) mapping to 9 C.

SOURCE

Herc1 (E-12) is a mouse monoclonal antibody raised against amino acids 591-890 mapping near the N-terminus of Herc1 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.

Herc1 (E-12) is available conjugated to agarose (sc-393950 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393950 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393950 PE), fluorescein (sc-393950 FITC), Alexa Fluor® 488 (sc-393950 AF488), Alexa Fluor® 546 (sc-393950 AF546), Alexa Fluor® 594 (sc-393950 AF594) or Alexa Fluor® 647 (sc-393950 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393950 AF680) or Alexa Fluor® 790 (sc-393950 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Herc1 (E-12) is recommended for detection of Herc1 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).

Herc1 (E-12) is also recommended for detection of Herc1 in additional species, including equine and porcine.

Suitable for use as control antibody for Herc1 siRNA (h): sc-90102, Herc1 siRNA (m): sc-145943, Herc1 shRNA Plasmid (h): sc-90102-SH, Herc1 shRNA Plasmid (m): sc-145943-SH, Herc1 shRNA (h) Lentiviral Particles: sc-90102-V and Herc1 shRNA (m) Lentiviral Particles: sc-145943-V.

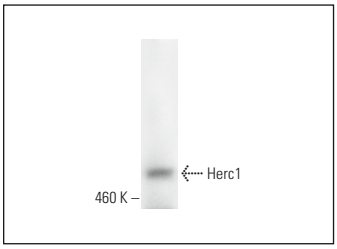
Molecular Weight of Herc1: 532 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Herc1 (E-12): sc-393950. Western blot analysis of Herc1 expression in HeLa whole cell lysate.

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.