SANTA CRUZ BIOTECHNOLOGY, INC.

Herc5 (C-17): sc-55837



BACKGROUND

Herc5 (probable E3 ubiquitin-protein ligase Herc5, HECT domain and RCC1like domain-containing protein 5) is a 1,024 amino acid protein encoded by the human gene HERC5. Herc5 belongs to the Herc family of ubiquitin ligases, all of which contain one HECT domain and five RCC1-like domain (RLD). The 350-amino acid HECT domain is predicted to catalyze the formation of a thioester with ubiquitin before transferring it to a substrate, and the RLD is predicted to act as a guanine nucleotide exchange factor for small G proteins. Cyclin E, as well as other cyclins, specifically interact with Herc5, even in the absence of p21. Cdk inhibitors, however, including p21 and p27, exhibit either weak or no interaction with Herc5. Found in the cytoplasmic, perinuclear region, Herc5 is largely expressed in testis and to a lesser degree in ovary.

REFERENCES

- 1. Buard, J., Collick, A., Brown, J. and Jeffreys, A.J. 2000. Somatic versus germline mutation processes at minisatellite CEB1 (D2S90) in humans and transgenic mice. Genomics 65: 95-103.
- Mitsui, K., Nakanishi, M., Ohtsuka, S., Norwood, T.H., Okabayashi, K., Miyamoto, C., Tanaka, K., Yoshimura, A. and Ohtsubo, M. 2000. A novel human gene encoding HECT domain and RCC1-like repeats interacts with cyclins and is potentially regulated by the tumor suppressor proteins. Biochem. Biophys. Res. Commun. 266: 115-122.
- 3. Kroismayr, R., Baranyi, U., Stehlik, C., Dorfleutner, A., Binder, B.R. and Lipp, J. 2004. Herc5, a HECT E3 ubiquitin ligase tightly regulated in LPS activated endothelial cells. J. Cell Sci. 117: 4749-4756.
- Takeuchi, T., Inoue, S. and Yokosawa, H. 2006. Identification and Herc5mediated ISGylation of novel target proteins. Biochem. Biophys. Res. Commun. 348: 473-477.
- Dastur, A., Beaudenon, S., Kelley, M., Krug, R.M. and Huibregtse, J.M. 2006. Herc5, an interferon-induced HECT E3 enzyme, is required for conjugation of ISG15 in human cells. J. Biol. Chem. 281: 4334-4338.
- Wong, J.J., Pung, Y.F., Sze, N.S. and Chin, K.C. 2006. Herc5 is an IFNinduced HECT-type E3 protein ligase that mediates type I IFN-induced ISGylation of protein targets. Proc. Natl. Acad. Sci. USA 103: 10735-10740.
- Davies, B.G., Hussain, A., Ring, S.M., Birch, J.M., Eden, T.O., Reeves, M., Dubrova, Y.E. and Taylor, G.M. 2007. New germline mutations in the hypervariable minisatellite CEB1 in the parents of children with leukaemia. Br. J. Cancer 96: 1265-1271.

STORAGE

Store at 4° C, **D0 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 or our catalog for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: HERC5 (human) mapping to 4q22.1.

SOURCE

Herc5 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Herc5 of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55837 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Herc5 (C-17) is recommended for detection of Herc5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) in-embedded sections) (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 Herc5 siRNA (h): sc-62455, Herc5 shRNA Plasmid (h): sc-62455-SH and Herc5 shRNA (h) Lentiviral Particles: sc-62455-V.

Molecular Weight of Herc5: 117 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluo-rescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

RESEARCH USE

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