SANTA CRUZ BIOTECHNOLOGY, INC.

HECTD1 (1E10): sc-517169

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The Power to Question

BACKGROUND

HECTD1, also known as EULIR (E3 ubiquitin-protein ligase for inhibin receptor), functions as an E3 ubiquitin ligase. As such, HECTD1 is a major component of the ubiquitin-proteasome system and plays a role in determining the specificity of ubiquitin conjugation. It is responsible for transferring ubiquitin to targeted substrates from an E2 ubiquitin-conjugating enzyme through the intermediate formation of a thiol ester with ubiquitin. Similar to a number of other E3 ubiquitin ligases, HECTD1 contains an N-terminal ankyrin repeat domain, a mind bomb (mib) domain and a C-terminal HECT (homologous to E6-AP C-terminus) domain. The HECT domain is responsible for the ubiquitin ligase activity, catalyzing polyubiquitination. HECTD1 is ubiquitously expressed throughout early development and is important for the complete and proper closure of the neural tube. Mutations in the gene encoding EULIR can result in neural tube defects.

REFERENCES

1. Wang, M. and Pickart, C.M. 2005. Different HECT domain ubiquitin ligases employ distinct mechanisms of polyubiquitin chain synthesis. EMBO J. 24: 4324-4333.
2. Li, W., et al. 2005. Methods for the functional genomic analysis of ubiquitin ligases. Methods Enzymol. 398: 280-291.
3. Kim, M., et al. 2006. Differential expression in histologically normal crypts of ulcerative colitis suggests primary crypt disorder. Oncol. Rep. 16: 663-670.
4. Kee, Y. and Huibregtse, J.M. 2007. Regulation of catalytic activities of HECT ubiquitin ligases. Biochem. Biophys. Res. Commun. 354: 329-333.
5. Brooks, W.S., et al. 2007. G2E3 is a nucleo-cytoplasmic shuttling protein with DNA damage responsive localization. Exp. Cell Res. 313: 665-676.
6. Zohn, I.E., et al. 2007. The HECTD1 ubiquitin ligase is required for development of the head mesenchyme and neural tube closure. Dev. Biol. 306: 208-221.
7. Rasooly, R., et al. 2007. Dietary *trans* 10, *cis* 12-conjugated linoleic acid reduces the expression of fatty acid oxidation and drug detoxification enzymes in mouse liver. Br. J. Nutr. 97: 58-66.
8. Kozlov, G., et al. 2007. Structural basis of ubiquitin recognition by the UBA domain of the ubiquitin ligase EDD. J. Biol. Chem. 282: 35787-35795.
9. Bergström, A., et al. 2007. Molecular pathways associated with stress resilience and drug resistance in the chronic mild stress rat model of depression: a gene expression study. J. Mol. Neurosci. 33: 201-215.

CHROMOSOMAL LOCATION

Genetic locus: HECTD1 (human) mapping to 14q12; Hectd1 (mouse) mapping to 12 C1.

SOURCE

HECTD1 (1E10) is a mouse monoclonal antibody raised against amino acids 3-110 representing partial length HECTD1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HECTD1 (1E10) is recommended for detection of HECTD1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

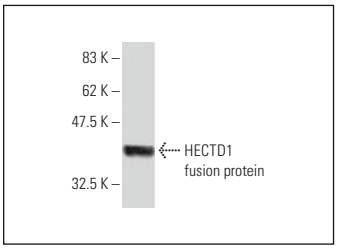
Suitable for use as control antibody for HECTD1 siRNA (h): sc-62284, EULIR siRNA (m): sc-62285, HECTD1 shRNA Plasmid (h): sc-62284-SH, EULIR shRNA Plasmid (m): sc-62285-SH, HECTD1 shRNA (h) Lentiviral Particles: sc-62284-V and EULIR shRNA (m) Lentiviral Particles: sc-62285-V.

Molecular Weight of HECTD1: 289 kDa.

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).

DATA



HECTD1 (1E10): sc-517169. Western blot analysis of human recombinant HECTD1 fusion protein.

SELECT PRODUCT CITATIONS

1. Salas, J., et al. 2023. Centriolin interacts with HectD1 in a cell cycle dependent manner. BMC Res. Notes 16: 375.

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.

PROTOCOLS

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