

KLHL9/13 (D-4): sc-166486

BACKGROUND

The BTB (broad-complex, tramtrack and bric a brac) domain, also known as the POZ (poxvirus and zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C₂H₂-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. KLHL9 (kelch-like 9) is a 617 amino acid protein containing one BACK (BTB/kelch associated) domain, six kelch repeats and a BTB/POZ domain. KLHL13 (kelch-like 13), also known as BKLHD2, is a 604 amino acid protein that contains six kelch repeats and one BTB/POZ domain. KLHL9 and KLHL13 are believed to play a role in protein ubiquitination and may function as a substrate-specific adapters of an E3 ubiquitin-protein ligase complex with CUL-3. E3 ligases accept a ubiquitin residue from an E2 ubiquitin-conjugating enzyme and immediately transfer that residue to a protein that is targeted for degradation.

REFERENCES

1. Singer, J.D., et al. 1999. Cullin-3 targets cyclin E for ubiquitination and controls S phase in mammalian cells. *Genes Dev.* 13: 2375-2387.
2. Tyers, M. and Willems, A.R. 1999. One RING to rule a superfamily of E3 ubiquitin ligases. *Science* 284: 601, 603-604.
3. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 65-73.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300655. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: KLHL9 (human) mapping to 9p21.3, KLHL13 (human) mapping to Xq24; Klhl9 (mouse) mapping to 4 C4, Klhl13 (mouse) mapping to X A2.

SOURCE

KLHL9/13 (D-4) is a mouse monoclonal antibody raised against amino acids 329-614 mapping near the C-terminus of KLHL9 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KLHL9/13 (D-4) is available conjugated to agarose (sc-166486 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166486 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166486 PE), fluorescein (sc-166486 FITC), Alexa Fluor® 488 (sc-166486 AF488), Alexa Fluor® 546 (sc-166486 AF546), Alexa Fluor® 594 (sc-166486 AF594) or Alexa Fluor® 647 (sc-166486 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166486 AF680) or Alexa Fluor® 790 (sc-166486 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

KLHL9/13 (D-4) is recommended for detection of KLHL9 and KLHL13 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).

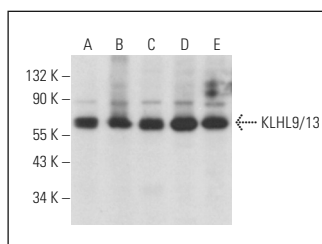
Molecular Weight of KLHL9/13: 68 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SH-SY5Y cell lysate: sc-3812 or A549 cell lysate: sc-2413.

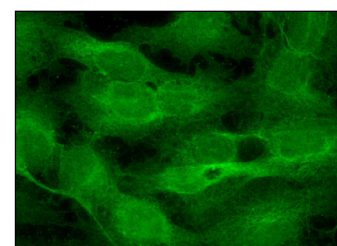
RECOMMENDED SUPPORT REAGENTS

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



KLHL9/13 (D-4): sc-166486. Western blot analysis of KLHL9/13 expression in HeLa (A), SH-SY5Y (B), A549 (C), 3T3-L1 (D) and RPE-J (E) whole cell lysates.



KLHL9/13 (D-4): sc-166486. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Mena, E.L., et al. 2020. Structural basis for dimerization quality control. *Nature* 586: 452-456.
2. Kato, K., et al. 2021. A novel missense variant in CUL3 shows altered binding ability to BTB-adaptor proteins leading to diverse phenotypes of CUL3-related disorders. *J. Hum. Genet.* 66: 491-498.
3. Akopian, D., et al. 2022. Co-adaptor driven assembly of a CUL3 E3 ligase complex. *Mol. Cell* 82: 585-597.e11.

RESEARCH USE

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

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