

LIN-54 (D-14): sc-164865

BACKGROUND

LIN-54, also known as CXC domain-containing protein 1 (CXDC1), JC8.6 or MIP120, is a 749 amino acid nuclear protein and mammalian homolog of the *C. elegans* Lin-54 protein that is required for cell cycle progression. A member of the LIN-54 family, LIN-54 functions as a component of the DREAM complex (also known as the LINC complex), which is found in quiescent cells and is comprised of several proteins, all of which work in concert to repress cell cycle-dependent genes. LIN-54 contains multiple phosphorylated amino acid residues and two CXC domains, which mediate DNA-binding. Existing as five alternatively spliced isoforms, LIN-54 is encoded by a gene located on human chromosome 4, which represents approximately 6% of the human genome, contains nearly 900 genes and is associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Kalchman, M.A., et al. 1996. Huntingtin is ubiquitinated and interacts with a specific ubiquitin-conjugating enzyme. *J. Biol. Chem.* 271: 19385-19394.
2. Krakow, D., et al. 2000. Exclusion of the Ellis-van Creveld region on chromosome 4p16 in some families with asphyxiating thoracic dystrophy and short-rib polydactyly syndromes. *Eur. J. Hum. Genet.* 8: 645-648.
3. Sommardahl, C., et al. 2001. Phenotypic variations of orpk mutation and chromosomal localization of modifiers influencing kidney phenotype. *Physiol. Genomics* 7: 127-134.
4. Korenjak, M., et al. 2004. Native E2F/RBF complexes contain Myb-interacting proteins and repress transcription of developmentally controlled E2F target genes. *Cell* 119: 181-193.
5. Schmit, F., et al. 2007. LINC, a human complex that is related to pRB-containing complexes in invertebrates regulates the expression of G₂/M genes. *Cell Cycle* 6: 1903-1913.
6. Litovchick, L., et al. 2007. Evolutionarily conserved multisubunit RBL2/p130 and E2F4 protein complex represses human cell cycle-dependent genes in quiescence. *Mol. Cell* 26: 539-551.
7. Schmit, F., et al. 2009. LIN5-4 is an essential core subunit of the DREAM/LINC complex that binds to the Cdc2 promoter in a sequence-specific manner. *FEBS J.* 276: 5703-5716.

CHROMOSOMAL LOCATION

Genetic locus: LIN54 (human) mapping to 4q21.22; Lin54 (mouse) mapping to 5 E4.

SOURCE

LIN-54 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LIN-54 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-164865 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LIN-54 (D-14) is recommended for detection of LIN-54 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)], 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); non cross-reactive with other LIN family members.

LIN-54 (D-14) is also recommended for detection of LIN-54 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for LIN-54 siRNA (h): sc-88920, LIN-54 siRNA (m): sc-146731, LIN-54 shRNA Plasmid (h): sc-88920-SH, LIN-54 shRNA Plasmid (m): sc-146731-SH, LIN-54 shRNA (h) Lentiviral Particles: sc-88920-V and LIN-54 shRNA (m) Lentiviral Particles: sc-146731-V.

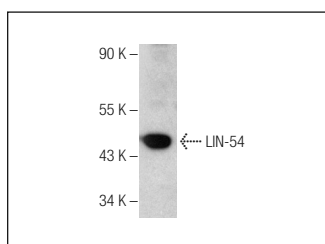
Molecular Weight of LIN-54: 80 kDa.

Positive Controls: mouse liver extract: sc-2256 or SK-BR-3 cell lysate: sc-2218.

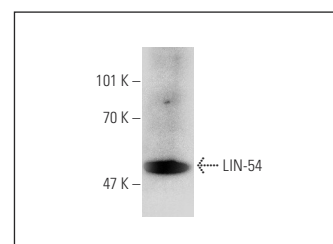
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: 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.

DATA



LIN-54 (D-14): sc-164865. Western blot analysis of LIN-54 expression in SKBR-3 whole cell lysate.



LIN-54 (D-14): sc-164865. Western blot analysis of LIN-54 expression in mouse liver tissue extract.

RESEARCH USE

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