

HELZ (FA-52): sc-130438

BACKGROUND

Helicases comprise a class of enzymes that function as motor proteins which move along nucleic acid phosphodiester bonds, effectively separating two annealed nucleic acid strands. RNA helicases alter the conformation of RNA, specifically by unwinding double-stranded RNA regions to yield single RNA strands, a process which changes the biological activity of the RNA molecule. HELZ (helicase with zinc finger), also known as DHRC or HUMORF5, is a 1,942 amino acid nuclear protein that contains one C3H1-type zinc finger and belongs to the RNA helicase superfamily. Expressed ubiquitously during embryonic development, HELZ is thought to function as an RNA helicase that modifies RNA structure and plays a role in the development of multiple organs and tissues within the developing embryo.

REFERENCES

1. Nomura, N., et al. 1994. Prediction of the coding sequences of unidentified human genes. II. The coding sequences of 40 new genes (KIAA0041-KIAA0080) deduced by analysis of cDNA clones from human cell line KG-1. *DNA Res.* 1: 223-229.
2. Wagner, D.S., et al. 1999. Identification of a differentially expressed RNA helicase by gene trapping. *Biochem. Biophys. Res. Commun.* 262: 677-684.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606699. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Nagai, H., et al. 2003. Down-regulation in human cancers of DRHC, a novel helicase-like gene from 17q25.1 that inhibits cell growth. *Cancer Lett.* 193: 41-47.
5. Suzuki, Y., et al. 2004. Sequence comparison of human and mouse genes reveals a homologous block structure in the promoter regions. *Genome Res.* 14: 1711-1718.
6. Hamamoto, R., et al. 2004. SMYD3 encodes a histone methyltransferase involved in the proliferation of cancer cells. *Nat. Cell Biol.* 6: 731-740.

CHROMOSOMAL LOCATION

Genetic locus: HELZ (human) mapping to 17q24.2.

SOURCE

HELZ (FA-52) is a mouse monoclonal antibody raised against recombinant HELZ of human origin.

PRODUCT

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

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.

APPLICATIONS

HELZ (FA-52) is recommended for detection of HELZ of 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for HELZ siRNA (h): sc-94245, HELZ shRNA Plasmid (h): sc-94245-SH and HELZ shRNA (h) Lentiviral Particles: sc-94245-V.

Molecular Weight (predicted) of HELZ: 219 kDa.

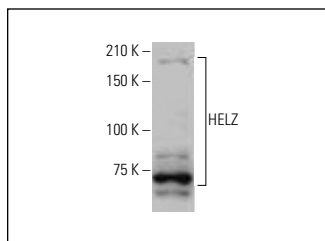
Molecular Weight (observed) of HELZ: 72 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

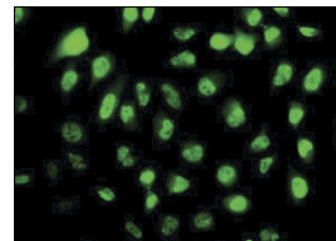
RECOMMENDED SUPPORT REAGENTS

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



HELZ (FA-52): sc-130438. Western blot analysis of HELZ expression in HeLa nuclear extract.



HELZ (FA-52): sc-130438. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

PROTOCOLS

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