

# HELZ (E-14): sc-168074

## 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 (K1AA0041-K1AA0080) 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; Helz (mouse) mapping to 11 E1.

## SOURCE

HELZ (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HELZ of human origin.

## 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-168074 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

HELZ (E-14) is recommended for detection of HELZ of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HELZ (E-14) is also recommended for detection of HELZ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HELZ siRNA (h): sc-94245, HELZ siRNA (m): sc-145934, HELZ shRNA Plasmid (h): sc-94245-SH, HELZ shRNA Plasmid (m): sc-145934-SH, HELZ shRNA (h) Lentiviral Particles: sc-94245-V and HELZ shRNA (m) Lentiviral Particles: sc-145934-V.

Molecular Weight (predicted) of HELZ: 22 kDa.

Molecular Weight (observed) of HELZ: 72 kDa.

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

## 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.