SANTA CRUZ BIOTECHNOLOGY, INC.

HLF (4D8): sc-134359

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The Power to Question

BACKGROUND

HLF (hepatic leukemia factor) is a 295 amino acid novel nuclear protein that is highly expressed in liver, with lower levels in lung and kidney. Belonging to the bZIP family and the PAR (proline and acidic-rich) subfamily of transcription regulatory proteins, HLF binds DNA specifically as a homodimer or heterodimer with other PAR factors. Chromosomal translocations fusing portions of this gene with the E2A gene causes a subset of childhood B-lineage acute lymphoid leukemias. The E2A-HLF chimeric fusion protein activates SLUG, a mammalian homologue of the cell death specification protein ces-1 in *Caenorhabditis elegans,* which appears to regulate an evolutionarily conserved cell survival program. E2A-HLF functions as a potent *trans*-activator. HLF is encoded by a gene located on human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

REFERENCES

1. Hunger, S.P., et al. 1992. HLF, a novel hepatic bZIP protein, shows altered DNA-binding properties following fusion to E2A in t(17;19) acute lymphoblastic leukemia. Genes Dev. 6: 1608-1620.
2. Inaba, T., et al. 1994. DNA-binding specificity and *trans*-activating potential of the leukemia-associated E2A-hepatic leukemia factor fusion protein. Mol. Cell. Biol. 14: 3403-3413.
3. Falvey, E., et al. 1995. The rat hepatic leukemia factor (HLF) gene encodes two transcriptional activators with distinct circadian rhythms, tissue distributions and target preferences. EMBO J. 14: 4307-4317.
4. Hunger, S.P., et al. 1996. The proto-oncogene HLF and the related basic leucine zipper protein TEF display highly similar DNA-binding and transcriptional regulatory properties. Blood 87: 4607-4617.
5. Seidel, M.G. and Look, A.T. 2001. E2A-HLF usurps control of evolutionarily conserved survival pathways. Oncogene 20: 5718-5725.
6. LeBrun, D.P. 2003. E2A basic helix-loop-helix transcription factors in human leukemia. Front. Biosci. 8: s206-s222.
7. Matsunaga, T., et al. 2004. Regulation of Annexin II by cytokine-initiated signaling pathways and E2A-HLF oncoprotein. Blood 103: 3185-3191.
8. Gachon, F., et al. 2004. The loss of circadian PAR bZip transcription factors results in epilepsy. Genes Dev. 18: 1397-1412.
9. Baudis, M., et al. 2006. ABCB1 overexpression and drug-efflux in acute lymphoblastic leukemia cell lines with t(17;19) and E2A-HLF expression. Pediatr. Blood Cancer 47: 757-764.

CHROMOSOMAL LOCATION

Genetic locus: HLF (human) mapping to 17q22; Hlf (mouse) mapping to 11 C.

SOURCE

HLF (4D8) is a mouse monoclonal antibody raised against recombinant HLF protein of human origin.

RESEARCH USE

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

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.

APPLICATIONS

HLF (4D8) is recommended for detection of HLF 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 HLF siRNA (h): sc-93773, HLF siRNA (m): sc-146044, HLF shRNA Plasmid (h): sc-93773-SH, HLF shRNA Plasmid (m): sc-146044-SH, HLF shRNA (h) Lentiviral Particles: sc-93773-V and HLF shRNA (m) Lentiviral Particles: sc-146044-V.

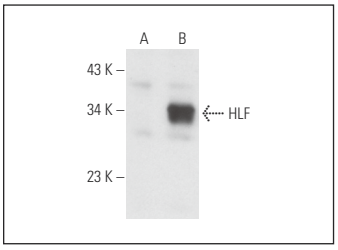
Molecular Weight of HLF: 33 kDa.

Positive Controls: HLF (m): 293T Lysate: sc-125451 or human HLF transfected 293T whole cell lysate.

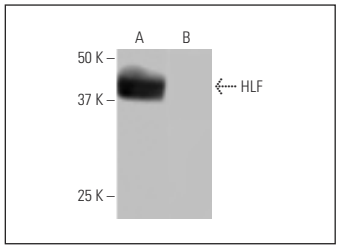
RECOMMENDED SUPPORT REAGENTS

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



HLF (4D8): sc-134359. Western blot analysis of HLF expression in non-transfected: sc-117752 (**A**) and mouse HLF transfected: sc-125451 (**B**) 293T whole cell lysates.



HLF (4D8): sc-134359. Western blot analysis of HLF expression in human HLF transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yokomizo, T., et al. 2019. HLF marks the developmental pathway for hematopoietic stem cells but not for erythro-myeloid progenitors. J. Exp. Med. 216: 1599-1614.

STORAGE

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