

Aiolos (3H5-G7): sc-293421

BACKGROUND

Ikaros family members, including Ikaros and Helios, are nuclear factors that colocalize with DNA replication machinery components in higher-order chromatin structures and respond to signaling events, such as T cell activation. Helios and Ikaros bind to similar DNA sequences and they function as hematopoietic-specific transcription factors. Members of the Ikaros family contain zinc-finger domains that are involved in DNA-binding and in the formation of homodimers and heterodimers between Ikaros family members. Aiolos, also known as zinc finger protein Ikaros 3 or ZNFN1A3, is a 509 amino acid nuclear protein. Aiolos plays an important role in lymphocyte differentiation regulation and, via this role, mutated Aiolos is implicated in leukemogenesis. Expressed in most tissues, Aiolos is predominantly found in spleen, thymus and peripheral blood leukocytes. Aiolos contains six C₂H₂-type zinc fingers, a motif commonly involved in nucleotide binding. Aiolos interacts with Ikaros family members, including Eos and Pegasus.

REFERENCES

- Wang, J.H., et al. 1998. Aiolos regulates B cell activation and maturation to effector state. *Immunity* 9: 543-553.
- Hosokawa, Y., et al. 1999. Human Aiolos, an ikaros-related zinc finger DNA binding protein: cDNA cloning, tissue expression pattern, and chromosomal mapping. *Genomics* 61: 326-329.
- Perdomo, J., et al. 2000. Eos and pegasus, two members of the Ikaros family of proteins with distinct DNA binding activities. *J. Biol. Chem.* 275: 38347-38354.
- Liippo, J., et al. 2001. Both normal and leukemic B lymphocytes express multiple isoforms of the human Aiolos gene. *Eur. J. Immunol.* 31: 3469-3474.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606221. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Sun, J., et al. 2003. Lack of the transcriptional coactivator OBF-1 prevents the development of systemic lupus erythematosus-like phenotypes in Aiolos mutant mice. *J. Immunol.* 170: 1699-1706.
- Cortes, M. and Georgopoulos, K. 2004. Aiolos is required for the generation of high affinity bone marrow plasma cells responsible for long-term immunity. *J. Exp. Med.* 199: 209-219.
- Mullighan, C.G., et al. 2007. Genome-wide analysis of genetic alterations in acute lymphoblastic leukaemia. *Nature* 446: 758-764.

CHROMOSOMAL LOCATION

Genetic locus: IKZF3 (human) mapping to 17q12.

SOURCE

Aiolos (3H5-G7) is a mouse monoclonal antibody raised against amino acids 1-509 representing full length Aiolos 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.

APPLICATIONS

Aiolos (3H5-G7) is recommended for detection of Aiolos 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)], 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).

Suitable for use as control antibody for Aiolos siRNA (h): sc-93817, Aiolos shRNA Plasmid (h): sc-93817-SH and Aiolos shRNA (h) Lentiviral Particles: sc-93817-V.

Molecular Weight of Aiolos: 58 kDa.

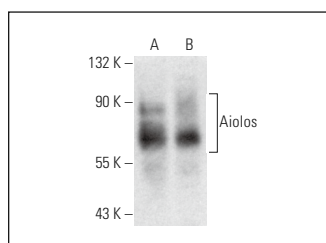
Positive Controls: Hep G2 cell lysate: sc-2227 or Raji whole cell lysate: sc-364236.

RECOMMENDED SUPPORT REAGENTS

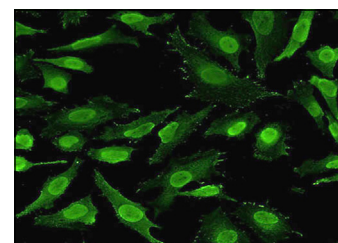
To ensure optimal results, the following support reagents are recommended:

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



Aiolos (3H5-G7): sc-293421. Western blot analysis of Aiolos expression in Hep G2 (A) and Raji (B) whole cell lysates.



Aiolos (3H5-G7): sc-293421. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

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.

PROTOCOLS

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