

Helios (H-1): sc-390358



The Power to Question

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 hemopoietic-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. Expression of Ikaros is primarily detected in the thymus and spleen, where it is essential for regulating T-cell specific gene transcription and for the differentiation and commitment of early hemopoietic progenitors to the B and T lymphoid lineages. Similarly, helios expression is detected primarily in T cells and in the earliest embryonic hemopoietic precursors and in adult stem cells. Ikaros and Helios also appear to regulate cell cycle entry by inducing transcriptional repression under varying conditions and, thereby, mediate T cell activation and IL-2 mediated signaling events.

REFERENCES

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- Sun, L., Liu, A. and Georgopoulos, K. 1996. Zinc finger-mediated protein interactions modulate Ikaros activity, a molecular control of lymphocyte development. *EMBO J.* 15: 5358-5369.
- Kelley, C.M., Ikeda, T., Koipally, J., Avitahl, N., Wu, L., Georgopoulos, K. and Morgan, B.A. 1998. Helios, a novel dimerization partner of Ikaros expressed in the earliest hematopoietic progenitors. *Curr. Biol.* 8: 508-515.
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- Hahm, K., Cobb, B.S., McCarty, A.S., Brown, K.E., Klug, C.A., Lee, R., Akashi, K., Weissman, I.L., Fisher, A.G. and Smale, S.T. 1998. Helios, a T cell-restricted Ikaros family member that quantitatively associates with Ikaros at centromeric heterochromatin. *Genes Dev.* 12: 782-796.

CHROMOSOMAL LOCATION

Genetic locus: IKZF2 (human) mapping to 2q34; Ikzf2 (mouse) mapping to 1 C3.

SOURCE

Helios (H-1) is a mouse monoclonal antibody raised against amino acids 222-280 mapping within an internal region of Helios of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Helios (H-1) is recommended for detection of Helios of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Helios (H-1) is also recommended for detection of Helios in additional species, including canine, bovine and porcine.

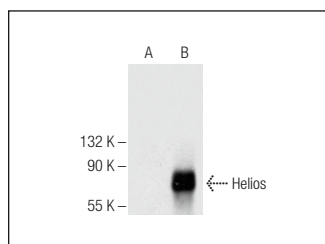
Suitable for use as control antibody for Helios siRNA (h): sc-38007, Helios siRNA (m): sc-38008, Helios shRNA Plasmid (h): sc-38007-SH, Helios shRNA Plasmid (m): sc-38008-SH, Helios shRNA (h) Lentiviral Particles: sc-38007-V and Helios shRNA (m) Lentiviral Particles: sc-38008-V.

Positive Controls: Helios (h): 293T Lysate: sc-114603 or Jurkat whole cell lysate: sc-2204.

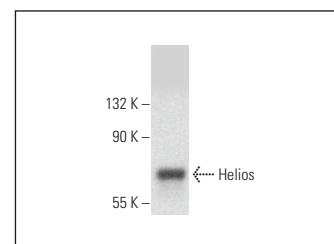
RECOMMENDED SUPPORT REAGENTS

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



Helios (H-1): sc-390358. Western blot analysis of Helios expression in non-transfected: sc-117752 (A) and human Helios transfected: sc-114603 (B) 293T whole cell lysates.



Helios (H-1): sc-390358. Western blot analysis of Helios expression in Jurkat whole cell lysate.

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.