

# Helios (h): 293T Lysate: sc-114603

## 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

- Georgopoulos, K., Moore, D.D. and Derfler, B. 1992. Ikaros, an early lymphoid-specific transcription factor and a putative mediator for T cell commitment. *Science* 258: 808-812.
- Molnar, A. and Georgopoulos, K. 1994. The Ikaros gene encodes a family of functionally diverse zinc finger DNA-binding proteins. *Mol. Cell. Biol.* 14: 8292-8303.
- 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.
- Klug, C.A., Morrison, S.J., Masek, M., Hahm, K., Smale, S.T. and Weissman, I.L. 1998. Hematopoietic stem cells and lymphoid progenitors express different Ikaros isoforms, and Ikaros is localized to heterochromatin in immature lymphocytes. *Proc. Natl. Acad. Sci. USA* 95: 657-662.
- 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.
- Cortes, M., Wong, E., Koipally, J. and Georgopoulos, K. 1999. Control of lymphocyte development by the Ikaros gene family. *Curr. Opin. Immunol.* 11: 167-171.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

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

## CHROMOSOMAL LOCATION

Genetic locus: IKZF2 (human) mapping to 2q34.

## PRODUCT

Helios (h): 293T Lysate represents a lysate of human Helios transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

Helios (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Helios antibodies. Recommended use: 10-20 µl per lane.

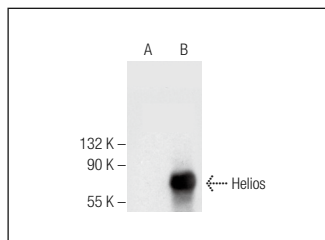
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Helios (E-7): sc-390357 is recommended as a positive control antibody for Western Blot analysis of enhanced human Helios expression in Helios transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

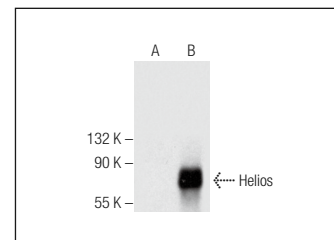
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



Helios (E-7): sc-390357. 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 non-transfected: sc-117752 (A) and human Helios transfected: sc-114603 (B) 293T whole cell lysates.

## RESEARCH USE

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