



Ikaros (h): 293 Lysate: sc-111057

BACKGROUND

Ikaros family members, including Ikaros and Helios, are nuclear factors that co-localize 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, 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, thereby mediating T cell activation and IL-2 mediated signaling events.

REFERENCES

1. Georgopoulos, K., et al. 1992. Ikaros, an early lymphoid-specific transcription factor and a putative mediator for T cell commitment. *Science* 258: 808-812.
2. Molnar, A., et al. 1994. The Ikaros gene encodes a family of functionally diverse zinc finger DNA-binding proteins. *Mol. Cell. Biol.* 14: 8292-8303.
3. Sun, L., et al. 1996. Zinc finger-mediated protein interactions modulate Ikaros activity, a molecular control of lymphocyte development. *EMBO J.* 15: 5358-5369.
4. Kelley, C.M., et al. 1998. Helios, a novel dimerization partner of Ikaros expressed in the earliest hematopoietic progenitors. *Curr. Biol.* 8: 508-515.
5. Klug, C.A., et al. 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.
6. Hahm, K., et al. 1998. Helios, a T cell-restricted Ikaros family member that quantitatively associates with Ikaros at centromeric heterochromatin. *Genes Dev.* 12: 782-796.
7. Cortes, M., et al. 1999. Control of lymphocyte development by the Ikaros gene family. *Curr. Opin. Immunol.* 11: 167-171.
8. Rebollo, A., et al. 2003. Ikaros, Aiolos and Helios: transcription regulators and lymphoid malignancies. *Immunol. Cell Biol.* 81: 171-175.
9. Dovat, S., et al. 2005. Transgenic expression of Helios in B lineage cells alters B cell properties and promotes lymphomagenesis. *J. Immunol.* 175: 3508-3515.

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 for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: IKZF1 (human) mapping to 7p12.2.

PRODUCT

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

APPLICATIONS

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

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

RESEARCH USE

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