

Helios (E-7): sc-390357

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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: IKZF2 (human) mapping to 2q34; lkzf2 (mouse) mapping to 1 C3.

SOURCE

Helios (E-7) 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Helios (E-7) is available conjugated to agarose (sc-390357 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390357 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390357 PE), fluorescein (sc-390357 FITC), Alexa Fluor® 488 (sc-390357 AF488), Alexa Fluor® 546 (sc-390357 AF546), Alexa Fluor® 594 (sc-390357 AF594) or Alexa Fluor® 647 (sc-390357 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390357 AF680) or Alexa Fluor® 790 (sc-390357 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

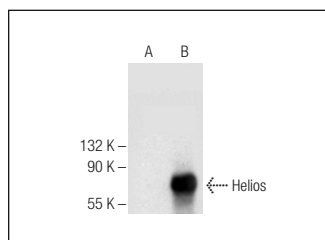
Helios (E-7) is recommended for detection of Helios of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Helios (E-7) is also recommended for detection of Helios in additional species, including canine, bovine and porcine.

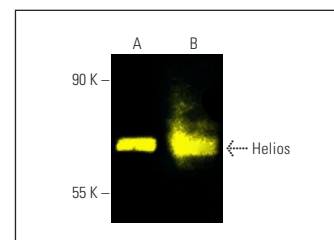
Suitable for use as control antibody for Helios siRNA (h): sc-38007, Helios siRNA (m): sc-38008, Helios shRNA Plasmid (h): sc-38007-SH, Helios shRNA Plasmid (m): sc-38008-SH, Helios shRNA (h) Lentiviral Particles: sc-38007-V and Helios shRNA (m) Lentiviral Particles: sc-38008-V.

Positive Controls: MOLT-4 cell lysate: sc-2233, Helios (h): 293T Lysate: sc-114603 or Jurkat whole cell lysate: sc-2204.

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 (E-7) Alexa Fluor® 488: sc-390357 AF488. Direct fluorescent western blot analysis of Helios expression in MOLT-4 (A) and Jurkat (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

- Zhao, S., et al. 2016. Alternative splice variants modulates dominant-negative function of Helios in T-cell leukemia. *PLoS ONE* 11: e0163328.
- Adil, A.A.M., et al. 2019. Differential expression of Helios, Neuropilin-1 and FoxP3 in head and neck squamous cell carcinoma (HNSCC) patients. *3 Biotech* 9: 178.
- Alhosaini, K., et al. 2021. 5-aminoisoquinolinone, a PARP-1 inhibitor, ameliorates immune abnormalities through upregulation of anti-inflammatory and downregulation of inflammatory parameters in T cells of BTBR mouse model of autism. *Brain Sci.* 11: 249.
- Huang, C., et al. 2022. Low-dose IL-2 attenuated depression-like behaviors and pathological changes through restoring the balances between IL-6 and TGF-β and between Th17 and Treg in a chronic stress-induced mouse model of depression. *Int. J. Mol. Sci.* 23: 13856.

RESEARCH USE

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