SANTA CRUZ BIOTECHNOLOGY, INC.

Ikaros (E-2): sc-398265

SANTA CRUZ BIOTECHNOLOGY

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

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.

CHROMOSOMAL LOCATION

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

SOURCE

Ikaros (E-2) is a mouse monoclonal antibody raised against amino acids 1-100 of Ikaros 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398265 X, 200 µg/0.1 ml.

Ikaros (E-2) is available conjugated to agarose (sc-398265 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398265 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398265 PE), fluorescein (sc-398265 FITC), Alexa Fluor® 488 (sc-398265 AF488), Alexa Fluor® 546 (sc-398265 AF546), Alexa Fluor® 594 (sc-398265 AF594) or Alexa Fluor® 647 (sc-398265 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398265 AF680) or Alexa Fluor® 790 (sc-398265 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

Ikaros (E-2) is recommended for detection of Ikaros of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

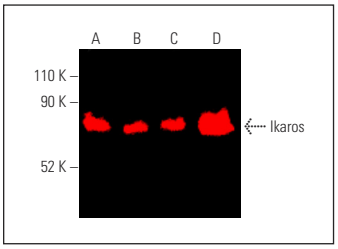
Suitable for use as control antibody for Ikaros siRNA (h): sc-35640, Ikaros shRNA Plasmid (h): sc-35640-SH and Ikaros shRNA (h) Lentiviral Particles: sc-35640-V.

Ikaros (E-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

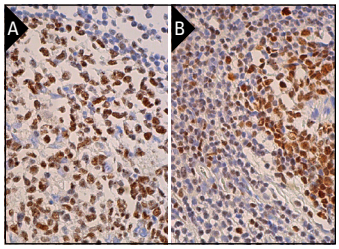
Molecular Weight of Ikaros: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, CCRF-CEM cell lysate: sc-2225 or Ramos cell lysate: sc-2216.

DATA



Ikaros (E-2): sc-398265. Near-Infrared western blot analysis of Ikaros expression in Raji (**A**), CCRF-CEM (**B**), Jurkat (**C**) and Ramos (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 790: sc-542740.



Ikaros (E-2): sc-398265. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (**B**).

SELECT PRODUCT CITATIONS

1. Fang, J., et al. 2016. A calcium- and calpain-dependent pathway determines the response to lenalidomide in myelodysplastic syndromes. Nat. Med. 22: 727-734.
2. Liang, L., et al. 2019. Deubiquitylase USP7 regulates human terminal erythroid differentiation by stabilizing GATA1. Haematologica 104: 2178-2187.
3. Wang, Z., et al. 2020. Lenalidomide enhances CAR-T cell activity against solid tumor cells. Cell Transplant. 29: 963689720920825.
4. Stengel, K.R., et al. 2021. Definition of a small core transcriptional circuit regulated by AML1-ETO. Mol. Cell 81: 530-545.e5.
5. Jaeger, H.K., et al. 2023. Mechanism and therapeutic implications of pomalidomide-induced immune surface marker upregulation in EBV-positive lymphomas. Sci. Rep. 13: 11596.

RESEARCH USE

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