

Arkadia (1-KK14): sc-134270

BACKGROUND

Communication between cells during early embryogenesis establishes the basic organization of the vertebrate body plan. The early mammalian embryo is patterned by signals emanating from extraembryonic and embryonic signaling centers, most notably the anterior visceral endoderm (AVE) and the node, respectively. Nodal-related members of the transforming growth factor (TGF) β family regulate the induction of mesoderm, endoderm and mesendoderm. The different tissues form in response to the same signaling molecules, which may elicit differential responses through concentration-dependent effects, extracellular cofactors and antagonists, or factor potentiation. The nuclear protein Arkadia specifically potentiates the mesendoderm-inducing activity of a subset of TGF β family members and interacts with Nodal, which mediates the function of Arkadia in node induction. Arkadia functions within extraembryonic tissues and is required to induce the node as an essential modulator of the nodal signalling cascade. The human gene for Arkadia maps to chromosome 15q22.1 and encodes a 441 amino acid protein. The murine gene for Arkadia maps to chromosome 9 39.0 cM and encodes a 989 amino acid protein.

REFERENCES

- Schier, A.F. and Shen, M.M. 2000. Nodal signalling in vertebrate development. *Nature* 403: 385-389.
- Episkopou, V., et al. 2001. Induction of the mammalian node requires Arkadia function in the extra embryonic lineages. *Nature* 410: 825-830.
- Niederlander, C., et al. 2001. Arkadia enhances nodal-related signalling to induce mesendoderm. *Nature* 410: 830-834.
- Patten, I. and Placzek, M. 2001. Vertebrate development: et in Arkadia. *Curr. Biol.* 11: 616-619.
- LocusLink Report (LocusID: 54778). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: RNF111 (human) mapping to 15q22.1.

SOURCE

Arkadia (1-KK14) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 1-108 of Arkadia of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Arkadia (1-KK14) is recommended for detection of Arkadia of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for ARKL1 siRNA (h): sc-72536, ARKL1 shRNA Plasmid (h): sc-72536-SH and ARKL1 shRNA (h) Lentiviral Particles: sc-72536-V.

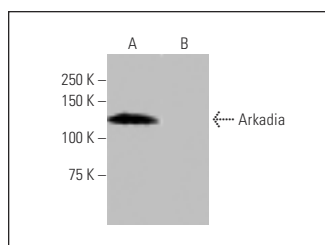
Molecular Weight of Arkadia: 109 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human Arkadia transfected 293T whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



Arkadia (1-KK14): sc-134270. Western blot analysis of Arkadia expression in human Arkadia transfected (A) and non-transfected (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Liang, L., et al. 2021. Blood glucose control contributes to protein stability of Ski-related novel protein N in a rat model of diabetes. *Exp. Ther. Med.* 22: 1341.

RESEARCH USE

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