



Arkadia (A-20): sc-19242

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)-beta 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-beta 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 15q21 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

1. Schier, A.F. and Shen, M.M. 2000. Nodal signalling in vertebrate development. *Nature* 403: 385-389.
2. Episkopou, V., et al. 2001. Induction of the mammalian node requires Arkadia function in the extraembryonic lineages. *Nature* 410: 825-830.
3. Niederlander, C., et al. 2001. Arkadia enhances nodal-related signalling to induce mesendoderm. *Nature* 410: 830-834.
4. Patten, I. and Placzek, M. 2001. Vertebrate development: Et in Arkadia. *Curr. Biol.* 11: 616-619.
5. LocusLink Report (LocusID: 54778). <http://www.ncbi.nlm.nih.gov/LocusLink/>
6. LocusLink Report (LocusID: 93836). <http://www.ncbi.nlm.nih.gov/LocusLink/>

SOURCE

Arkadia (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Arkadia of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19242 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

Arkadia (A-20) is recommended for detection of arkadia of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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