

RAI2 (N-20): sc-82743

BACKGROUND

Retinoic acid (RA) represents the oxidized form of vitamin A and, via interactions with retinoic acid receptors (RARs), plays a crucial role in development, cellular growth and differentiation. RAI2 (retinoic acid induced 2) is a 530 amino acid protein that may be related to RA function and is thought to play a role in developmental processes throughout the cell. The gene encoding RAI2 localizes to a region on human chromosome X that is associated with Nance-Horan syndrome, sensorineural deafness, non-specific X-linked mental retardation, oral-facial-digital syndrome and Fried syndrome, suggesting a possible role for RAI2 in the pathogenesis of these diseases. Chromosome X, one of the two human sex chromosomes, contains nearly 153 million base pairs and encodes over 1,000 genes. In conjunction with chromosome Y, chromosome X is responsible for sex determination, as an X and a Y chromosome lead to normal male development, while two copies of an X chromosome lead to normal female development.

REFERENCES

- Walpole, S.M., Hiriyana, K.T., Nicolaou, A., Bingham, E.L., Durham, J., Vaudin, M., Ross, M.T., Yates, J.R., Sieving, P.A. and Trump, D. 1999. Identification and characterization of the human homologue (RAI2) of a mouse retinoic acid-induced gene in Xp22. *Genomics* 55: 275-283.
- Walpole, S.M., Ronce, N., Grayson, C., Dessay, B., Yates, J.R., Trump, D. and Toutain, A. 1999. Exclusion of RAI2 as the causative gene for Nance-Horan syndrome. *Hum. Genet.* 104: 410-411.
- Online Mendelian Inheritance in Man, OMIM[™]. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 300217. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Bernardino-Sgherri, J., Flagiello, D. and Dutrillaux, B. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. *Cytogenet. Genome Res.* 99: 85-91.
- Hayashi, T., Kubo, A., Takeuchi, T., Gekka, T., Goto-Omoto, S. and Kitahara, K. 2006. Novel form of a single X-linked visual pigment gene in a unique dichromatic color-vision defect. *Vis. Neurosci.* 23: 411-417.
- Augui, S., Filion, G.J., Huart, S., Nora, E., Guggiari, M., Maresca, M., Stewart, A.F. and Heard, E. 2007. Sensing X chromosome pairs before X inactivation via a novel X-pairing region of the Xic. *Science* 318: 1632-1636.

CHROMOSOMAL LOCATION

Genetic locus: RAI2 (human) mapping to Xp22.13; Rai2 (mouse) mapping to X F4.

SOURCE

RAI2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RAI2 of human origin.

STORAGE

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

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-82743 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RAI2 (N-20) is recommended for detection of RAI2 of mouse, rat and human 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).

RAI2 (N-20) is also recommended for detection of RAI2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for RAI2 siRNA (h): sc-76342, RAI2 siRNA (m): sc-76343, RAI2 shRNA Plasmid (h): sc-76342-SH, RAI2 shRNA Plasmid (m): sc-76343-SH, RAI2 shRNA (h) Lentiviral Particles: sc-76342-V and RAI2 shRNA (m) Lentiviral Particles: sc-76343-V.

Molecular Weight of RAI2: 57 kDa.

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.

PROTOCOLS

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