

RAI2 (C-20): sc-82741

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 2 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 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-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-82741 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RAI2 (C-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 (C-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.