



anosmin-1 (I-20): sc-20564

BACKGROUND

Kallmann (KAL1) syndrome is an X-linked condition characterized by hypogonadism due to gonadotropin-releasing hormone (GnRH) deficiency, and a defective sense of smell, known as anosmia, due to the underdevelopment of the olfactory bulbs. GnRH is a key regulator of reproduction and sexual behavior. Anosmia associated with Kallmann syndrome is due to a defect in the migration and targeting of GnRH-secreting neurons and olfactory axons during embryonic development. Mutations in the KAL1 gene are responsible for X-linked Kallmann syndrome. The human KAL1 gene, located in the Xp22.3 region, encodes a 680 amino acid extracellular matrix adhesion protein, known as anosmin-1. Anosmin-1 protein is detected at 100 kDa and can be proteolytically processed into a 45 kDa secreted component. Anosmin-1 plays an essential role in the patterning of mitral and tufted cell axon collaterals to the olfactory cortex. Anosmin-1 can be detected in the basement membranes and/or interstitial matrices of various structures including bronchial tubes, muscular walls of the digestive tract and forebrain subregions.

REFERENCES

1. Ballabio, A. and Camerino, G. 1992. The gene for X-linked Kallmann syndrome: a human neuronal migration defect. *Curr. Opin. Genet. Dev.* 2: 417-421.
2. Rugarli, E.I., et al. 1996. The Kallmann syndrome gene product expressed in COS cells is cleaved on the cell surface to yield a diffusible component. *Hum. Mol. Genet.* 5: 1109-1115.
3. Soussi-Yanicostas, N., et al. 1996. Initial characterization of anosmin-1, a putative extracellular matrix protein synthesized by definite neuronal cell populations in the central nervous system. *J. Cell Sci.* 109: 1749-1757.
4. Soussi-Yanicostas, N., et al. 1998. Anosmin-1 underlying the X chromosome-linked Kallmann syndrome is an adhesion molecule that can modulate neurite growth in a cell-type specific manner. *J. Cell Sci.* 111: 2953-2965.
5. Maya-Nunez, G., et al. 1998. A recurrent missense mutation in the KAL gene in patients with X-linked Kallmann's syndrome. *J. Clin. Endocrinol. Metab.* 83: 1650-1653.
6. Hardelin, J.P., et al. 1999. Anosmin-1 is a regionally restricted component of basement membranes and interstitial matrices during organogenesis: implications for the developmental anomalies of X chromosome-linked Kallmann syndrome. *Dev. Dyn.* 215: 26-44.

SOURCE

anosmin-1 (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of anosmin-1 of human 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-20564 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

anosmin-1 (I-20) is recommended for detection of anosmin-1 of 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).

Molecular Weight of anosmin-1: 100/45 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.

STORAGE

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

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.