



SMR3A (R-13): sc-139212

BACKGROUND

Salivary glands are accessory digestive structures that also are sources of systemically active immunoregulatory and anti-inflammatory factors. The salivary glands participate in a neuroendocrine axis that is regulated by the autonomic nervous system and contributes to whole body homeostasis. Submaxillary gland androgen-regulated proteins are male-specific proteins that have a pro-hormone structure and are processed by maturation enzymes, leading to the release of small peptides within the blood and saliva. These peptides have analgesic and anti-inflammatory properties, and seem to be important in mediating inflammation, suppressing pain and erectile dysfunction. Submaxillary gland androgen-regulated protein 3A (SMR3A) and 3B (SMR3B), also known as Proline-rich protein 5 and Proline-rich protein 3 respectively, are secreted into the saliva by the submaxillary gland and may have a hormonal effect.

REFERENCES

- Rosinski-Chupin, I., et al. 1993. Localization of mRNAs of two androgen-dependent proteins, SMR1 and SMR2, by *in situ* hybridization reveals sexual differences in acinar cells of rat submandibular gland. *J. Histochem. Cytochem.* 41: 1645-1649.
- Tronik-Le Roux, D., et al. 1994. Three novel SMR1-related cDNAs characterized in the submaxillary gland of mice show extensive evolutionary divergence in the protein coding region. *Gene* 142: 175-182.
- Singer, M., et al. 1995. Recent evolution of genes encoding the prohormone-like protein SMR1 in the rat submandibular gland. *DNA Cell Biol.* 14: 137-144.
- Isemura, S., et al. 1997. Nucleotide sequence of gene PBI encoding a protein homologous to salivary proline-rich protein P-B. *J. Biochem.* 121: 1025-1030.
- Señorale-Pose, M., et al. 1998. Acinar cells are target cells for androgens in mouse submandibular glands. *J. Histochem. Cytochem.* 46: 669-678.
- Rougeot, C., et al. 2000. Rodent submandibular gland peptide hormones and other biologically active peptides. *Peptides* 21: 443-455.
- User, H.M., et al. 2003. Microarray analysis and description of SMR1 gene in rat penis in a post-radical prostatectomy model of erectile dysfunction. *J. Urol.* 170: 298-301.
- Morris, K.E., et al. 2009. Autonomic nervous system regulates secretion of anti-inflammatory prohormone SMR1 from rat salivary glands. *Am. J. Physiol., Cell Physiol.* 296: C514-C524.
- Mathison, R.D., et al. 2010. Salivary gland derived peptides as a new class of anti-inflammatory agents: review of preclinical pharmacology of C-terminal peptides of SMR1 protein. *J. Inflamm.* 7: 49.

CHROMOSOMAL LOCATION

Genetic locus: *Smr3a* (rat) mapping to 14p22-p21.

SOURCE

SMR3A (R-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SMR3A of rat 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-139212 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SMR3A (R-13) is recommended for detection of SMR3A of 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); non cross-reactive with other SMR3 family members.

Molecular Weight of SMR3A: 14 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.