SANTA CRUZ BIOTECHNOLOGY, INC.

# SPRR4 (Q-13): sc-248703

## BACKGROUND

The small proline rich protein (SPRR) gene family encodes a conserved group of cornified envelope (CE) proteins that are part of the human epidermal differentiation complex (EDC). The formation of the cornified envelope during the late stages of epidermal differentiation is essential for epidermal barrier function and protects the body against environmental attack and water loss. Additionally, the expression of SPRR proteins is linked to keratinocyte terminal differentiation. The SPRR gene family, namely comprises three subclasses of genes, SPRR1 (which contains two members), SPRR2 (which contains eight members) and SPRR3 (which contains one member). SPRR1 is found predominantly in follicular epidermis and oral mucosa, SPRR2 is expressed coherently in follicular and interfollicular epidermis and SPRR3 is absent in epidermis and strongly expressed in internal squamous.

## REFERENCES


1. Yaar, M., et al. 1995. *In vivo* and *in vitro* SPRR1 gene expression in normal and malignant keratinocytes. Exp. Cell Res. 217: 217-226.
2. Hohl, D., et al. 1995. The small proline-rich proteins constitute a multigene family of differentially regulated cornified cell envelope precursor proteins. J. Invest. Dermatol. 104: 902-909.
3. Austin, S.J., et al. 1996. Cloning and regulation of cornifin β, a new member of the cornifin/SPR family. Suppression by retinoic acid receptor-selective retinoids. J. Biol. Chem. 271: 3737-3742.
4. Lohman, F.P., et al. 1997. Expression of the SPRR cornification genes is differentially affected by carcinogenic transformation. Exp. Cell Res. 231: 141-148.
5. Zimmermann, N., et al. 2005. Expression and regulation of small proline-rich protein 2 in allergic inflammation. Am. J. Respir. Cell Mol. Biol. 32: 428-435.
6. Fischer, D.F. and Backendorf, C. 2005. Promoter analysis in the human SPRR gene family. Methods Mol. Biol. 289: 303-314.
7. Tong, L., et al. 2006. Expression and regulation of cornified envelope proteins in human corneal epithelium. Invest. Ophthalmol. Vis. Sci. 47: 1938-1946.
8. Li, S., et al. 2008. Small proline-rich protein 1B (SPRR1B) is a biomarker for squamous metaplasia in dry eye disease. Invest. Ophthalmol. Vis. Sci. 49: 34-41.
9. Demetris, A.J., et al. 2008. Small proline-rich proteins (SPRR) function as SH3 domain ligands, increase resistance to injury and are associated with epithelial-mesenchymal transition (EMT) in cholangiocytes. J. Hepatol. 48: 276-288.


## CHROMOSOMAL LOCATION

Genetic locus: Sprr4 (mouse) mapping to 3 F1.

## STORAGE

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

## SOURCE

SPRR4 (Q-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SPRR4 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-248703 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SPRR4 (Q-13) is recommended for detection of SPRR4 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); non cross-reactive with other SPRR family members.

Suitable for use as control antibody for SPRR4 siRNA (m): sc-153798, SPRR4 shRNA Plasmid (m): sc-153798-SH and SPRR4 shRNA (m) Lentiviral Particles: sc-153798-V.

## 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.