

# Keratocan (C-16): sc-33243

## BACKGROUND

Small leucine-rich proteoglycans (SLRPs) such as Decorin, Biglycan, Fibromodulin, Keratocan, Lumican and Osteoglycin mediate extracellular matrix organization and are binding partners of TGF $\beta$ . The Decorin core protein binds to growth factors, intercellular matrix molecules such as Fibronectin and Thrombospondin, and to the Decorin endocytosis receptor. Fibromodulin is a collagen-binding keratan sulphate proteoglycan that influences adhesion processes of connective tissue and plays a role in fibrillogenesis by regulating collagen fibril spacing and thickness. Keratocan (KTN) develops corneal transparency and maintains the stromal matrix structure. Keratocan is a secreted protein in the extracellular matrix that binds to keratan sulfate chains. Keratocan is mainly detected in the cornea, but can also be expressed in trachea, intestine, ovary, lung and skeletal muscle. Defects in the gene encoding for Keratocan can cause cornea plana 2 (CNA2), an autosomal recessive disorder where the forward convex curvature of the cornea is flattened.

## REFERENCES

1. Tashva, E.S., et al. 1999. Structure and sequence of the gene encoding human Keratocan. *DNA Seq.* 10: 67-74.
2. Lehmann, O.J., et al. 2001. A novel Keratocan mutation causing autosomal recessive cornea plana. *Invest. Ophthalmol Vis. Sci.* 42: 3118-3122.
3. Wentz-Hunter, K., et al. 2001. Keratocan expression is increased in the stroma of keratoconus corneas. *Mol. Med.* 7: 470-477.
4. Carlson, E.C., et al. 2005. Keratocan, a cornea-specific keratan sulfate proteoglycan, is regulated by Lumican. *J. Biol. Chem.* 280: 25541-25547.
5. Kawakita, T., et al. 2005. Keratocan expression of murine keratocytes is maintained on amniotic membrane by down-regulating transforming growth factor- $\beta$  signaling. *J. Biol. Chem.* 280: 27085-27092.
6. Ebenezer, N.D., et al. 2005. Clinical and molecular characterization of a family with autosomal recessive cornea plana. *Arch. Ophthalmol.* 123: 1248-1253.

## CHROMOSOMAL LOCATION

Genetic locus: KERA (human) mapping to 12q21.33.

## SOURCE

Keratocan (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Keratocan of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33243 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Keratocan (C-16) is recommended for detection of Keratocan 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).

Suitable for use as control antibody for Keratocan siRNA (h): sc-44701, Keratocan shRNA Plasmid (h): sc-44701-SH and Keratocan shRNA (h) Lentiviral Particles: sc-44701-V.

Molecular Weight of Keratocan: 50 kDa.

Positive Controls: JEG-3 whole cell lysate: sc-364255.

## 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.

## SELECT PRODUCT CITATIONS

1. Arnalich-Montiel, F., et al. 2008. Adipose-derived stem cells are a source for cell therapy of the corneal stroma. *Stem Cells* 26: 570-579.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.