SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 3 (Q-14): sc-49181

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. The Cytokeratin proteins play a critical role in differentiation, as well as tissue specialization and function, to maintain the overall structural integrity of epithelial cells. Cytokeratins are also useful markers in identifying the origin of metastatic tumors. There are two types of Cytokeratins: types I and II. Type I Cytokeratins are acidic proteins, whereas type II Cytokeratins are neutral or basic proteins. Cytokeratin 3 is a type II Cytokeratin expressed in the corneal epithelium along with Cytokeratin 12. Dominant-negative mutations in the Cytokeratin 3 and Cytokeratin 12 genes cause Meesmann corneal dystrophy (MCD), an autosomal dominant disease that is characterized by weakness of the anterior corneal epithelium.

REFERENCES

1. Moll, R., Franke, W.W., Schiller, D.L., Geiger, B. and Krepler, R. 1982. The catalog of human Cytokeratins: patterns of expression in normal epithelia, tumors and cultured cells. Cell 31: 11-24.
2. Schermer, A., Galvin, S. and Sun, T.T. 1986. Differentiation-related expression of a major 64 kDa corneal keratin *in vivo* and in culture suggests limbal location of corneal epithelial stem cells. J. Cell Biol. 103: 49-62.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 148043. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Kawakita, T., Espana, E.M., He, H., Li, W., Liu, C.Y. and Tseng, S.C. 2005. Intrastromal invasion by limbal epithelial cells is mediated by epithelial-mesenchymal transition activated by air exposure. Am. J. Pathol. 167: 381-393.

CHROMOSOMAL LOCATION

Genetic locus: KRT3 (human) mapping to 12q13.13.

SOURCE

Cytokeratin 3 (Q-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Cytokeratin 3 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-49181 P, (100 µg 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.

RESEARCH USE

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

APPLICATIONS

Cytokeratin 3 (Q-14) is recommended for detection of Cytokeratin 3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 Cytokeratin 3 siRNA (h): sc-60500, Cytokeratin 3 shRNA Plasmid (h): sc-60500-SH and Cytokeratin 3 shRNA (h) Lentiviral Particles: sc-60500-V.

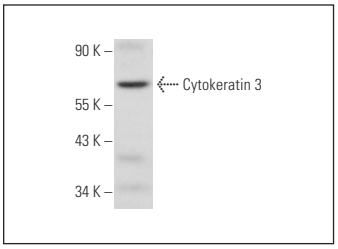
Molecular Weight of Cytokeratin 3: 64 kDa.

Positive Controls: ARPE-19 whole cell lysate: sc-364357.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Cytokeratin 3 (Q-14): sc-49181. Western blot analysis of Cytokeratin 3 expression in ARPE-19 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ahenkorah, J., Hottor, B., Byrne, S., Bosio, P. and Ockleford, C.D. 2009. Immunofluorescence confocal laser scanning microscopy and immuno-electron microscopic identification of keratins in human materno-foetal interaction zone. J. Cell. Mol. Med. 13: 735-748.