

Cytokeratin 12 (N-16): sc-17098

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue, where they constitute up to 85% of mature keratinocytes in the vertebrate epidermis. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. The α -helical, coiled-coil dimers associate laterally end-to-end to form 10 nm diameter filaments. Cytokeratins are useful markers of tissue differentiation, and Cytokeratin 12 is a distinct marker of tissue differentiation in the developing cornea. Cytokeratin 12 and Cytokeratin 3 are expressed in the corneal epithelium, where Cytokeratin 12 provides structural integrity to an otherwise fragile cornea. Human Cytokeratin 12 gene mutations cause Meesmann's corneal dystrophy, an autosomal dominant disorder characterized by corneal epithelia fragility and intra-epithelial microcysts.

CHROMOSOMAL LOCATION

Genetic locus: KRT12 (human) mapping to 17q12.

SOURCE

Cytokeratin 12 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Cytokeratin 12 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-17098 P, (100 μ 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

Cytokeratin 12 (N-16) is recommended for detection of Cytokeratin 12 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Cytokeratin 12 (N-16) is also recommended for detection of Cytokeratin 12 in additional species, including equine.

Suitable for use as control antibody for Cytokeratin 12 siRNA (h): sc-43306, Cytokeratin 12 shRNA Plasmid (h): sc-43306-SH and Cytokeratin 12 shRNA (h) Lentiviral Particles: sc-43306-V.

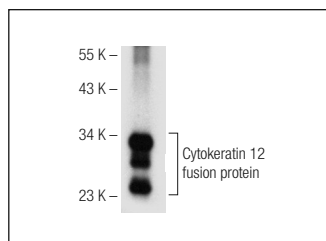
Molecular Weight of Cytokeratin 12: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human colon extract: sc-365757.

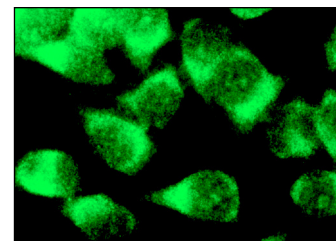
RECOMMENDED SECONDARY REAGENTS

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 12 (N-16): sc-17098. Western blot analysis of human recombinant Cytokeratin 12 fusion protein.



Cytokeratin 12 (N-16): sc-17098. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

- Boehlke, C.S., et al. 2004. Cytokeratin 12 in human ocular surface epithelia is the antigen reactive with a commercial anti-G α_q antibody. *Mol. Vis.* 10: 867-873.
- Kawasaki, S., et al. 2006. Expression and tissue distribution of p63 isoforms in human ocular surface epithelia. *Exp. Eye Res.* 82: 293-299.
- Kawasaki, S., et al. 2006. Clusters of corneal epithelial cells reside ectopically in human conjunctival epithelium. *Invest. Ophthalmol. Vis. Sci.* 47: 1359-1367.
- Yokoo, S., et al. 2008. Human corneal epithelial equivalents for ocular surface reconstruction in a complete serum-free culture system without unknown factors. *Invest. Ophthalmol. Vis. Sci.* 49: 2438-2443.
- Yokoo, S., et al. 2008. A novel isolation technique of progenitor cells in human corneal epithelium using non-tissue culture dishes. *Stem Cells* 26: 1743-1748.
- Eberwein, P., et al. 2010. Epithelial marker expression in Salzmann nodular degeneration shows characteristics of limbal transient amplifying cells and alludes to an involvement of the epithelium in its pathogenesis. *Acta Ophthalmol.* 88: e184-e189.
- Auw-Haedrich, C., et al. 2011. Immunohistochemical expression of epithelial cell markers in corneas with congenital aniridia and ocular cicatrizing pemphigoid. *Acta Ophthalmol.* 89: 47-53.

RESEARCH USE

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