

Cytokeratin 5/6/18 (LP34): sc-53262

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and maintain the overall structural integrity of epithelial cells. Cytokeratins are useful markers of tissue differentiation which is directly applicable to the characterization of malignant tumors. Cytokeratin polypeptides are designated 1 to 20 and are divided into the type I and type II subgroups. The type II family members comprise the basic to neutral Cytokeratins 1-8, while the type I group comprises the acidic Cytokeratins 9-20. Cytokeratin 5 is expressed in normal basal cells. Mutations of the Cytokeratin 5 gene (KRT5) have been shown to result in the autosomal dominant disorder epidermolysis bullosa (EB). Cytokeratin 6 is expressed in suprabasal keratinocytes of wounded epidermis and in acrosyringal keratinocytes in normal skin. Cytokeratin 18 is one of the first keratins expressed in the embryo, and persists into adult tissues. It is a major component of all simple epithelia (but not of stratified squamous epithelia) and adenocarcinomas.

REFERENCES

1. van der Velden, L.A., et al. 1993. Cytokeratin expression in normal and (pre) malignant head and neck epithelia: an overview. *Head Neck* 15: 133-146.
2. Marceau, N. and Loranger, A. 1995. Cytokeratin expression, fibrillar organization and subtle function in liver cells. *Biochem. Cell Biol.* 73: 619-625.
3. Fuchs, E. 1995. Keratins and the skin. *Annu. Rev. Cell Dev. Biol.* 11: 123-153.
4. Quillien, V., et al. 1995. Serum and tissue distribution of a fragment of Cytokeratin 19 (CYFRA 21-1) in lung cancer patients. *Anticancer Res.* 15: 2857-2863.
5. Mukhopadhyay, T. and Roth, J.A. 1996. Functional inactivation of p53 by antisense RNA induces invasive ability of lung carcinoma cells and downregulates cytokeratin synthesis. *Anticancer Res.* 16: 1683-1689.

CHROMOSOMAL LOCATION

Genetic locus: KRT5/KRT6A/KRT6B/KRT6C/KRT18 (human) mapping to 12q13.13.

SOURCE

Cytokeratin 5/6/18 (LP34) is a mouse monoclonal antibody raised against stratum corneum of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 5/6/18 (LP34) is recommended for detection of Cytokeratin 5/6/18 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Cytokeratin 5: 58 kDa.

Molecular Weight of Cytokeratin 6: 56 kDa.

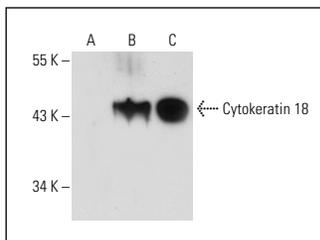
Molecular Weight of Cytokeratin 18: 45 kDa.

Positive Controls: Cytokeratin 18 (h): 293 Lysate: sc-110494, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

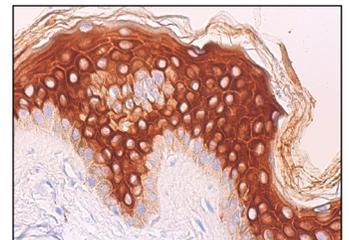
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Cytokeratin 5/6/18 (LP34): sc-53262. Western blot analysis of Cytokeratin 18 expression in non-transfected 293: sc-110760 (A), human Cytokeratin 18 transfected 293: sc-110494 (B) and HeLa (C) whole cell lysates.



Cytokeratin 5/6/18 (LP34): sc-53262. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes.

SELECT PRODUCT CITATIONS

1. Ordóñez, N.G. 2013. Broad-spectrum immunohistochemical epithelial markers: a review. *Hum. Pathol.* 44: 1195-1215.



See **pan-Cytokeratin (C11): sc-8018** for pan-Cytokeratin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.