

Basic Cytokeratin (3G129): sc-70402

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins that are expressed 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. The type I family is comprised of the acidic members, Cytokeratins 9-20, and the type II family is comprised of the basic to neutral members, Cytokeratins 1-8. The formation of intermediate filaments requires the pairing of at least one Acidic and one Basic Cytokeratin. The genes encoding human type II/Basic Cytokeratins are located in a cluster on chromosome 12q. Relative to their type I partner, basic cytokeratins are initially expressed in differentiating epithelia.

REFERENCES

- Rosenberg, M., et al. 1991. Three epidermal and one simple epithelial type II keratin genes map to human chromosome 12. *Cytogenet. Cell Genet.* 57: 33-38.
- 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.
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- Mukhopadhyay, T. and Roth, J.A. 1996. Functional inactivation of p53 by antisense RNA induces invasive ability of lung carcinoma cells and down-regulates Cytokeratin synthesis. *Anticancer Res.* 16: 1683-1689.
- Rydlander, L., et al. 1997. Molecular characterization of a tissue-polypeptide-specific-antigen epitope and its relationship to human Cytokeratin 18. *Eur. J. Biochem.* 241: 309-314.
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- Johnson, R.M. 2004. Murine oviduct epithelial cell cytokine responses to *Chlamydia muridarum* infection include Interleukin-12-p70 secretion. *Infect. Immun.* 72: 3951-3960.
- Irvine, A.D. 2005. Inherited defects in keratins. *Clin. Dermatol.* 23: 6-14.
- Jacques, C., et al. 2005. Cytokeratins and dermatology. *Skinmed* 4: 354-361.

SOURCE

Basic Cytokeratin (3G129) is a mouse monoclonal antibody raised against epidermal keratins 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.

RESEARCH USE

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

APPLICATIONS

Basic Cytokeratin (3G129) is recommended for detection of basic (type II) cytokeratins of mouse, rat, human and bovine 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).

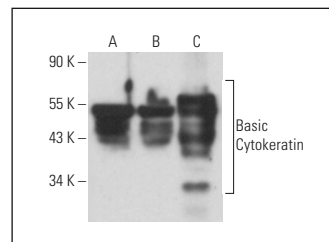
Molecular Weight of Basic Cytokeratin: 50-70 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

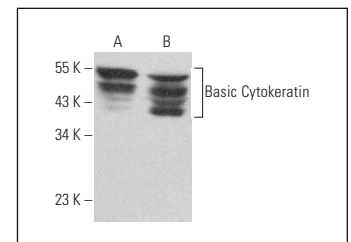
RECOMMENDED SUPPORT REAGENTS

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



Basic Cytokeratin (3G129): sc-70402. Western blot analysis of Basic Cytokeratin expression in HeLa (A), MCF7 (B) and A-431 (C) whole cell lysates.



Basic Cytokeratin (3G129): sc-70402. Western blot analysis of Basic Cytokeratin expression in HeLa (A) and A-673 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Li, Q., et al. 2018. Int6/elf3e silencing promotes placenta angiogenesis in a rat model of pre-eclampsia. *Sci. Rep.* 8: 8944.

STORAGE

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



See **Basic Cytokeratin (AE3): sc-57004** for Basic Cytokeratin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.