

# Cytokeratin 6/75 (H-6): sc-166074

## 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  $\alpha$ -helical coiled-coil dimers associate laterally end-to-end to form 10 nm diameter filaments. Cytokeratins are useful markers of tissue differentiation and, in addition, aid in the characterization of malignant tumors. In humans, multiple isoforms of Cytokeratin 6 (6A-6F), encoded by several highly homologous genes, have distinct tissue expression patterns, and Cytokeratin 6A is the dominant form in epithelial tissue. The gene encoding human Cytokeratin 6A maps to chromosome 12q13.13, and mutations in this gene are linked to several inheritable hair and skin pathologies. Cytokeratin 75, also designated, K6HF in humans maps to the same genetic loci. In the companion layer of the hair follicle, Cytokeratin 75 is an element of keratin intermediate filaments.

## CHROMOSOMAL LOCATION

Genetic locus: KRT6A/KRT6B/KRT6C/KRT75 (human) mapping to 12q13.13; Krt6a/Krt6b/Krt75 (mouse) mapping to 15 F2.

## SOURCE

Cytokeratin 6/75 (H-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 147-180 within an internal region of Cytokeratin 6A of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cytokeratin 6/75 (H-6) is available conjugated to agarose (sc-166074 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166074 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166074 PE), fluorescein (sc-166074 FITC), Alexa Fluor® 488 (sc-166074 AF488), Alexa Fluor® 546 (sc-166074 AF546), Alexa Fluor® 594 (sc-166074 AF594) or Alexa Fluor® 647 (sc-166074 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166074 AF680) or Alexa Fluor® 790 (sc-166074 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166074 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

Cytokeratin 6/75 (H-6) is recommended for detection of Cytokeratin 6A, Cytokeratin 6B, Cytokeratin 6C and Cytokeratin 75 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Cytokeratin 6: 56 kDa.

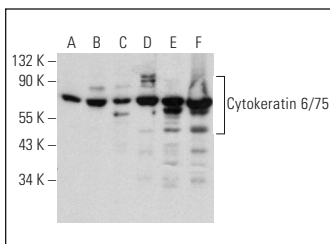
Molecular Weight of Cytokeratin 75: 59 kDa.

Positive Controls: T-47D cell lysate: sc-2293, SK-BR-3 cell lysate: sc-2218 or MCF7 whole cell lysate: sc-2206.

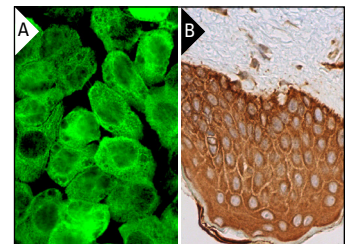
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Cytokeratin 6/75 (H-6): sc-166074. Western blot analysis of Cytokeratin 6/75 expression in TT (A), SK-BR-3 (B), MCF7 (C), NTERA-2 cl.D1 (D), T-47D (E) and A-431 (F) whole cell lysates.



Cytokeratin 6/75 (H-6): sc-166074. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, Langerhans cells and melanocytes (B).

## SELECT PRODUCT CITATIONS

- Xie, Z., et al. 2018. p120-catenin is required for regulating epidermal proliferation, differentiation, and barrier function. *J. Cell. Physiol.* 234: 427-432.
- Chang, W.L., et al. 2019. The making of a flight feather: bio-architectural principles and adaptation. *Cell* 179: 1409-1423.

## RESEARCH USE

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