SANTA CRUZ BIOTECHNOLOGY, INC.

Keratin 74 (E-6): sc-390340

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Keratin multigene family is made of "soft" epithelial cytokeratins and "hard" hair Keratins. While the epithelial cytokeratins are involved in the layering and formation of epithelia, the hair Keratins are responsible for creating nails and hair. There are two types of Keratins: the acidic class I Keratin proteins and the basic/neutral class II Keratin proteins. Keratin 74 (KRT74), also known as K6IRS4, KRT5C or KRT6IRS4, is a 529 amino acid protein that is highly expressed in scalp hair follicles. Specifically, Keratin 74 is found in the Huxley layer of the inner root sheath (IRS). Woolly hair autosomal dominant (ADWH) is a rare disorder caused by defects in the Keratin 74 gene which causes fine and tightly curled hair that stops growing after a few inches. Only affecting the scalp, progressive hair loss begins at early adulthood and complete baldness occurs after 30 years. The gene encoding Keratin 74 maps to human chromosome 12.

REFERENCES

1. Rogers, M.A., et al. 1997. Sequences and differential expression of three novel human type-II hair keratins. Differentiation 61: 187-194.
2. Rogers, M.A., et al. 2000. Characterization of a 300 kbp region of human DNA containing the type II hair keratin gene domain. J. Invest. Dermatol. 114: 464-472.
3. Langbein, L., et al. 2001. The catalog of human hair keratins. II. Expression of the six type II members in the hair follicle and the combined catalog of human type I and II keratins. J. Biol. Chem. 276: 35123-35132.
4. Hesse, M., et al. 2001. Genes for intermediate filament proteins and the draft sequence of the human genome: novel keratin genes and a surprisingly high number of pseudogenes related to keratin genes 8 and 18. J. Cell Sci. 114: 2569-2575.
5. Langbein, L. and Schweizer, J. 2005. Keratins of the human hair follicle. Int. Rev. Cytol. 243: 1-78.
6. Rogers, M.A., et al. 2005. Characterization of new members of the human type II keratin gene family and a general evaluation of the keratin gene domain on chromosome 12q13.13. J. Invest. Dermatol. 124: 536-544.

CHROMOSOMAL LOCATION

Genetic locus: KRT74 (human) mapping to 12q13.13.

SOURCE

Keratin 74 (E-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 475-486 near the C-terminus of Keratin 74 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390340 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Keratin 74 (E-6) is recommended for detection of Keratin 74 of human origin by Western Blotting (starting dilution 1:100, 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 Keratin 74 siRNA (h): sc-95780, Keratin 74 shRNA Plasmid (h): sc-95780-SH and Keratin 74 shRNA (h) Lentiviral Particles: sc-95780-V.

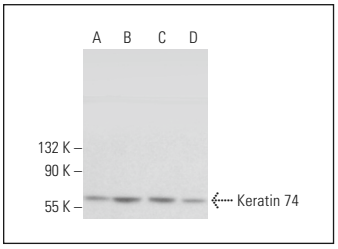
Molecular Weight of Keratin 74: 58 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or MCF7 whole cell lysate: sc-2206.

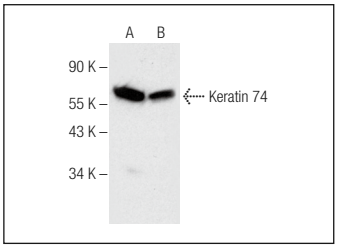
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-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.

DATA



Keratin 74 (E-6): sc-390340. Western blot analysis of Keratin 74 expression in Jurkat (**A**), SUP-T1 (**B**), ALL-SIL (**C**) and HeLa (**D**) whole cell lysates.



Keratin 74 (E-6): sc-390340. Western blot analysis of Keratin 74 expression in Jurkat (**A**) and MCF7 (**B**) whole cell lysates.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.