

Keratin 74 (P-12): sc-168291

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 12q13.13.

REFERENCES

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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.
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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.
7. Langbein, L., et al. 2006. K25 (K25irs1), K26 (K25irs2), K27 (K25irs3), and K28 (K25irs4) represent the type I inner root sheath keratins of the human hair follicle. *J. Invest. Dermatol.* 126: 2377-2386.
8. Shimomura, Y., et al. 2010. Autosomal-dominant woolly hair resulting from disruption of keratin 74 (KRT74), a potential determinant of human hair texture. *Am. J. Hum. Genet.* 86: 632-638.
9. Wasif, N., et al. 2011. Novel mutations in the keratin-74 (KRT74) gene underlie autosomal dominant woolly hair/hypotrichosis in Pakistani families. *Hum. Genet.* 129: 419-424.

CHROMOSOMAL LOCATION

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

SOURCE

Keratin 74 (P-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Keratin 74 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-168291 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Keratin 74 (P-12) is recommended for detection of Keratin 74 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other Keratin family members.

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.

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.

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 or our catalog for detailed protocols and support products.


 MONOS
 Satisfaction
 Guaranteed

Try **Keratin 74 (E-6): sc-390340**, our highly recommended monoclonal alternative to Keratin 74 (P-12).