SANTA CRUZ BIOTECHNOLOGY, INC.

KRTAP7-1 (C-13): sc-83287

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hair is a structure that is unique to mammals. It plays an important role in the retention of heat, as well as sexual dimorphism, attraction of mates and protection of skin. The major components of hair are α-keratins and keratin-associated proteins (KRTAPs or KAPs), each of which are encoded by multi-gene families. Hair keratins form an intermediate filament (IF) network, which is embedded in an interfilamentous matrix consisting of KRTAPs. KRTAPS comprise three major groups, which are essential for the formation of rigid and resistant hair shafts through disulfide bond cross-linking or hydrophobic interactions with keratins. These groups are designated high Cysteine (HS), which includes subfamilies 1, 2, 3, 10, 12, 16, 29 and 31, ultrahigh Cysteine, including subfamilies 4, 5, 9, 17, 28, 30, 32 and 33, and high glycine-tyrosine (HGT), which includes subfamilies 6, 7, 8, 19, 20 and 21. In addition, subfamilies 11, 13, 24-27, 29, 34 and 35 have high serine content but relative low Cysteine content. After further phylogenetic studies, subfamilies 14 and 15 have been grouped with subfamily 13 and subfamily 22 was combined with subfamily 19.

REFERENCES

1. Powell, B.C., Nesci, A. and Rogers, G.E. 1991. Regulation of keratin gene expression in hair follicle differentiation. Ann. N.Y. Acad. Sci. 642: 1-20.
2. Emonet, N., Michaille, J.J. and Dhouailly, D. 1997. Isolation and characterization of genomic clones of human sequences presumably coding for hair Cysteine-rich proteins. J. Dermatol. Sci. 14: 1-11.
3. Langbein, L., Rogers, M.A., Winter, H., Praetzel, S., Beckhaus, U., Rackwitz, H.R. and Schweizer, J. 1999. The catalog of human hair keratins. I. Expression of the nine type I members in the hair follicle. J. Biol. Chem. 274: 19874-19884.
4. Langbein, L., Rogers, M.A., Winter, H., Praetzel, S. and Schweizer, J. 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.

CHROMOSOMAL LOCATION

Genetic locus: KRTAP7-1 (human) mapping to 21q22.11; Krtap7-1 (mouse) mapping to 16 C3.3.

SOURCE

KRTAP7-1 (C-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of KRTAP7-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83287 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

KRTAP7-1 (C-13) is recommended for detection of KRTAP7-1 of mouse and 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 KRTAP family members.

Suitable for use as control antibody for KRTAP7-1 siRNA (h): sc-91512, KRTAP7-1 siRNA (m): sc-146603, KRTAP7-1 shRNA Plasmid (h): sc-91512-SH, KRTAP7-1 shRNA Plasmid (m): sc-146603-SH, KRTAP7-1 shRNA (h) Lentiviral Particles: sc-91512-V and KRTAP7-1 shRNA (m) Lentiviral Particles: sc-146603-V.

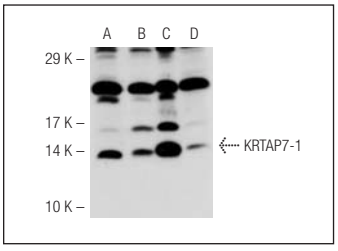
Molecular Weight of KRTAP7-1: 9 kDa.

Positive Controls: SW480 cell lysate: sc-2219, A549 cell lysate: sc-2413 or A-431 whole cell lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



KRTAP7-1 (C-13): sc-83287. Western blot analysis of KRTAP7-1 expression in HEK293 (**A**), SW480 (**B**), A549 (**C**) and A-431 (**D**) whole cell lysates.

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.