

Keratin 72 (T-13): sc-168281

BACKGROUND

The Keratin multigene family is made of the "soft" epithelial cytokeratins and the "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 hair Keratins: the acidic type I hair Keratin proteins and the basic/neutral type II hair Keratin proteins. Keratin 72, also known as Keratin, type II cytoskeletal 72, is a 511 amino acid member of the intermediate filament family that plays a role in hair formation. Keratin 72 is a heterotetramer of two type I and two type II Keratins and is a component of Keratin intermediate filaments in the inner root sheath (IRS) of the hair follicle. In the IRS cuticle, the presence of Keratin 72 is delayed up to the height of the apex of the dermal papilla (at protein level). Highly expressed in hair follicles from scalp and eyebrow, Keratin 72 is also expressed in palmoplantar epidermis but is not expressed in face skin.

REFERENCES

1. Yu, J., Yu, D.W., Checkla, D.M., Freedberg, I.M. and Bertolino, A.P. 1993. Human hair keratins. *J. Invest. Dermatol.* 101: 56S-59S.
2. Rogers, M.A., Schweizer, J., Kreig, T. and Winter, H. 1994. A novel human type I hair keratin gene: evidence for two keratin hHa3 isoforms. *Mol. Biol. Rep.* 20: 155-161.
3. Rogers, M.A., Winter, H., Wolf, C., Heck, M. and Schweizer, J. 1998. Characterization of a 190-kilobase pair domain of human type I hair keratin genes. *J. Biol. Chem.* 273: 26683-26691.
4. 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.
5. Porter, R.M., Corden, L.D., Lunny, D.P., Smith, F.J., Lane, E.B. and McLean, W.H. 2001. Keratin K6irs is specific to the inner root sheath of hair follicles in mice and humans. *Br. J. Dermatol.* 145: 558-568.
6. Langbein, L., Rogers, M.A., Praetzel, S., Winter, H. and Schweizer, J. 2003. K6irs1, K6irs2, K6irs3, and K6irs4 represent the inner-root-sheath-specific type II epithelial keratins of the human hair follicle. *J. Invest. Dermatol.* 120: 512-522.
7. Schweizer, J., Bowden, P.E., Coulombe, P.A., Langbein, L., Lane, E.B., Magin, T.M., Maltais, L., Omary, M.B., Parry, D.A., Rogers, M.A. and Wright, M.W. 2006. New consensus nomenclature for mammalian keratins. *J. Cell Biol.* 174: 169-174.
8. Langbein, L., Rogers, M.A., Praetzel-Wunder, S., Helmke, B., Schirmacher, P. and Schweizer, J. 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.

CHROMOSOMAL LOCATION

Genetic locus: KRT72 (human) mapping to 12q13.13; Krt72-ps (mouse) mapping to 15 F2.

SOURCE

Keratin 72 (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Keratin 72 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-168281 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Keratin 72 (T-13) is recommended for detection of Keratin 72 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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.

Keratin 72 (T-13) is also recommended for detection of Keratin 72 in additional species, including equine.

Suitable for use as control antibody for Keratin 72 siRNA (h): sc-96192, Keratin 72 siRNA (m): sc-146420, Keratin 72 shRNA Plasmid (h): sc-96192-SH, Keratin 72 shRNA Plasmid (m): sc-146420-SH, Keratin 72 shRNA (h) Lentiviral Particles: sc-96192-V and Keratin 72 shRNA (m) Lentiviral Particles: sc-146420-V.

Molecular Weight of Keratin 72: 56 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) 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.