

Trichohyalin (AE15): sc-80607

BACKGROUND

Trichohyalin is a nine domain containing structural protein that is produced in the medulla and inner root sheath of hair follicles. Among the structural motifs are two ERF-hand calcium binding domains located in domain 1. It is a member of the S100-fused protein family and a substrate of transglutaminase and peptidylarginine deaminase. Trichohyalin associates with keratin intermediate filaments (KIF) and peripheral cell envelope barrier proteins to coordinate cornified cell envelope organization.

REFERENCES

- O'Guin, W.M., et al. 1992. Interaction of Trichohyalin with intermediate filaments: three immunologically defined stages of Trichohyalin maturation. *J. Invest. Dermatol.* 98: 24-32.
- Lee, S.C., et al. 1993. The structure of human Trichohyalin. Potential multiple roles as a functional EF-hand-like calcium-binding protein, a cornified cell envelope precursor, and an intermediate filament-associated (cross-linking) protein. *J. Biol. Chem.* 268: 12164-12176.
- Manabe, M. and O'Guin, W.M. 1995. Existence of Trichohyalin-keratohyalin hybrid granules: co-localization of two major intermediate filament-associated proteins in non-follicular epithelia. *Differentiation* 58: 65-75.
- Tarcsa, E., et al. 1997. The fate of Trichohyalin. Sequential posttranslational modifications by peptidyl-arginine deiminase and transglutaminases. *J. Biol. Chem.* 272: 27893-27901.
- Ishida-Yamamoto, A., et al. 1997. Distinctive expression of Filaggrin and Trichohyalin during various pathways of epithelial differentiation. *Br. J. Dermatol.* 137: 9-16.

CHROMOSOMAL LOCATION

Genetic locus: TCHH (human) mapping to 1q21.3; Tchh (mouse) mapping to 3 F2.1.

SOURCE

Trichohyalin (AE15) is a mouse monoclonal antibody raised against hair proteins of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Trichohyalin (AE15) is available conjugated to agarose (sc-80607 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-80607 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-80607 PE), fluorescein (sc-80607 FITC), Alexa Fluor® 488 (sc-80607 AF488), Alexa Fluor® 546 (sc-80607 AF546), Alexa Fluor® 594 (sc-80607 AF594) or Alexa Fluor® 647 (sc-80607 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-80607 AF680) or Alexa Fluor® 790 (sc-80607 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Trichohyalin (AE15) is recommended for detection of Trichohyalin of mouse, rat and human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for Trichohyalin siRNA (h): sc-106636, Trichohyalin siRNA (m): sc-61711, Trichohyalin shRNA Plasmid (h): sc-106636-SH, Trichohyalin shRNA Plasmid (m): sc-61711-SH, Trichohyalin shRNA (h) Lentiviral Particles: sc-106636-V and Trichohyalin shRNA (m) Lentiviral Particles: sc-61711-V.

Molecular Weight of Trichohyalin: 200-220 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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.

SELECT PRODUCT CITATIONS

- Kazem, S., et al. 2012. Trichodysplasia spinulosa is characterized by active polyomavirus infection. *J. Clin. Virol.* 53: 225-230.
- Leung, Y., et al. 2013. Label retaining cells (LRCs) with myoepithelial characteristic from the proximal acinar region define stem cells in the sweat gland. *PLoS ONE* 8: e74174.
- Leishman, E., et al. 2013. Foxp1 maintains hair follicle stem cell quiescence through regulation of Fgf18. *Development* 140: 3809-3818.
- Stewart, R.M., et al. 2015. Nuclear-cytoskeletal linkages facilitate cross talk between the nucleus and intercellular adhesions. *J. Cell Biol.* 209: 403-418.
- Yang, H., et al. 2017. Epithelial-mesenchymal micro-niches govern stem cell lineage choices. *Cell* 169: 483-496.
- Nguyen, M.B., et al. 2018. FGF signalling controls the specification of hair placode-derived SOX9 positive progenitors to Merkel cells. *Nat. Commun.* 9: 2333.
- Cohen, I., et al. 2018. PRC1 fine-tunes gene repression and activation to safeguard skin development and stem cell specification. *Cell Stem Cell* 22: 726-739.
- Jiang, T.X., et al. 2019. Comparative regenerative biology of spiny (*Acomys cahirinus*) and laboratory (*Mus musculus*) mouse skin. *Exp. Dermatol.* 28: 442-449.

STORAGE

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

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