SANTA CRUZ BIOTECHNOLOGY, INC.

Filaggrin (AE21): sc-80609

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Profilaggrin is a large, insoluble, highly phosphorylated precursor protein containing several tandem copies of a 324 amino acid stretch. Mammalian profilaggrin is a major protein component of keratohyalin granules in the living cells of the epidermis. Keratohyalin granules contribute to the keratin content of dead cornified cells. During terminal differentiation of the epidermis, profilaggrin is proteolytically processed into active Filaggrin molecules that promote aggregation and disulfide-bond formation of keratin intermediate filaments. Active Filaggrin is present at a level of the epidermis where keratinocytes are in transition between the live nucleated granular layer and the anucleate cornified layer, suggesting that filaggrin aids in the terminal differentiation process by facilitating apoptotic machinery.

CHROMOSOMAL LOCATION

Genetic locus: FLG (human) mapping to 1q21.3.

SOURCE

Filaggrin (AE21) is a mouse monoclonal antibody raised against hair proteins of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Filaggrin (AE21) is available conjugated to agarose (sc-80609 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-80609 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-80609 PE), fluorescein (sc-80609 FITC), Alexa Fluor® 488 (sc-80609 AF488), Alexa Fluor® 546 (sc-80609 AF546), Alexa Fluor® 594 (sc-80609 AF594) or Alexa Fluor® 647 (sc-80609 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-80609 AF680) or Alexa Fluor® 790 (sc-80609 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Filaggrin (AE21) is recommended for detection of Filaggrin 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Filaggrin siRNA (h): sc-43364, Filaggrin shRNA Plasmid (h): sc-43364-SH and Filaggrin shRNA (h) Lentiviral Particles: sc-43364-V.

Molecular Weight of Profilaggrin: > 350 kDa.

Molecular Weight of processed Filaggrin: 26-45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

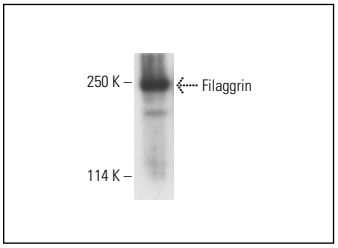
RESEARCH USE

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

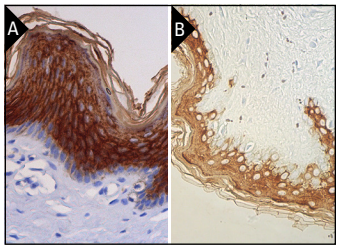
STORAGE

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

DATA



Filaggrin (AE21): sc-80609. Western blot analysis of Filaggrin expression in HeLa whole cell lysate. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



Filaggrin (AE21): sc-80609. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva and anal skin tissue showing cytoplasmic staining of epidermal cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgG Fc BP-B: sc-533652 and ImmunoCruz® ABC Kit: sc-516216 (**B**).

SELECT PRODUCT CITATIONS

1. Zhang, J., et al. 2010. RNPC1, an RNA-binding protein and a target of the p53 family, regulates p63 expression through mRNA stability. Proc. Natl. Acad. Sci. USA 107: 9614-9619.
2. Jiang, L.W., et al. 2016. Using human epithelial amnion cells in human de-epidermized dermis for skin regeneration. J. Dermatol. Sci. 81: 26-34.
3. Lee, W., et al. 2019. Water-soluble extract from *Actinidia arguta* (Siebold & Zucc.) Planch. ex Miq. and *Perilla frutescens (L.)* Britton, ACTPER, Ameliorates a dry skin-induced itch in a mice model and promotes filaggrin expression by activating the AhR signaling in HaCaT cells. Nutrients 11: 1366.
4. Son, H.U., et al. 2021. *Prunus mume* seed exhibits inhibitory effect on skin senescence via SIRT1 and MMP-1 regulation. Oxid. Med. Cell. Longev. 2021: 5528795.
5. Fujishiro, M., et al. 2021. Pyridoxine stimulates filaggrin production in human epidermal keratinocytes. Mol. Biol. Rep. 48: 5513-5518.
6. Urban, L.A., et al. 2023. DNA methylation dynamics during esophageal epithelial regeneration following repair with acellular silk fibroin grafts in rat. Adv. Biol. 7: e2200160.
7. Ardizzone, A., et al. 2023. Efficacy of the radical scavenger, tempol, to reduce inflammation and oxidative stress in a murine model of atopic dermatitis. Antioxidants 12: 1278.

PROTOCOLS

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