

Filaggrin (H-300): sc-30229

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.

REFERENCES

1. McKinley-Grant, L.J., et al. 1989. Characterization of a cDNA clone encoding human filaggrin and localization of the gene to chromosome region 1q21. *Proc. Natl. Acad. Sci. USA* 86: 4848-4852.
2. Gan, S.Q., et al. 1990. Organization, structure and polymorphisms of the human profilaggrin gene. *Biochemistry* 29: 9432-9440.

CHROMOSOMAL LOCATION

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

SOURCE

Filaggrin (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Filaggrin 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.

STORAGE

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

APPLICATIONS

Filaggrin (H-300) 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

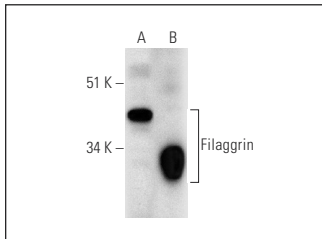
Molecular Weight of processed Filaggrin: 26-45 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176 or human skin extract: sc-363777.

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



Filaggrin (H-300): sc-30229. Western blot analysis of Filaggrin expression in U-251-MG whole cell lysate (A) and human skin tissue extract (B).

SELECT PRODUCT CITATIONS

1. Li, W., et al. 2008. Down-regulation of Pax-6 is associated with abnormal differentiation of corneal epithelial cells in severe ocular surface diseases. *J. Pathol.* 214: 114-122.
2. Gutowska-Owsiak, D., et al. 2011. Interleukin-22 downregulates filaggrin expression and affects expression of profilaggrin processing enzymes. *B. J. Dermatol.* 165: 492-498.
3. Grether-Beck, S., et al. 2012. Urea uptake enhances barrier function and antimicrobial defense in humans by regulating epidermal gene expression. *J. Invest. Dermatol.* 132: 1561-1572.
4. Eckl, K.M., et al. 2013. Impaired epidermal ceramide synthesis causes autosomal recessive congenital ichthyosis and reveals the importance of ceramide acyl chain length. *J. Invest. Dermatol.* 133: 2202-2211.

RESEARCH USE

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



Try **Filaggrin (AKH1): sc-66192** or **Filaggrin (AE21): sc-80609**, our highly recommended monoclonal alternatives to Filaggrin (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Filaggrin (AKH1): sc-66192**.