

# Filaggrin (M-290): sc-30230

## 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

- 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.
- Gan, S.Q., et al. 1990. Organization, structure and polymorphisms of the human profilaggrin gene. *Biochemistry* 29: 9432-9440.
- Takahashi, M., et al. 1996. Filaggrin linker segment peptide and cystatin  $\alpha$  are parts of a complex of the cornified envelope of epidermis. *Arch. Biochem. Biophys.* 329: 123-126.
- Gerritsen, M.J., et al. 1997. Recruitment of cycling epidermal cells and expression of filaggrin, involucrin and tenascin in the margin of the active psoriatic plaque, in the uninvolved skin of psoriatic patients and in the normal healthy skin. *J. Dermatol. Sci.* 14: 179-188.
- Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 135940. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Kuehle, M.K., et al. 2000. Inducible expression of filaggrin increases keratinocyte susceptibility to apoptotic cell death. *Cell Death Differ.* 7: 566-573.
- LocusLink Report (LocusID: 2312). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: Flg (mouse) mapping to 3 F2.1.

## SOURCE

Filaggrin (M-290) is a rabbit polyclonal antibody raised against amino acids 11-300 mapping near the N-terminus of Filaggrin of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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 (M-290) is recommended for detection of Filaggrin of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 (m): sc-44779, Filaggrin shRNA Plasmid (m): sc-44779-SH and Filaggrin shRNA (m) Lentiviral Particles: sc-44779-V.

Molecular Weight of processed Filaggrin: 26-45 kDa.

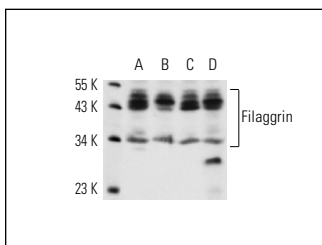
Molecular Weight of Profilaggrin: 350 kDa.

Positive Controls: F9 cell lysate: sc-2245, NIH/3T3 whole cell lysate: sc-2210 or c4 whole cell lysate: sc-364186.

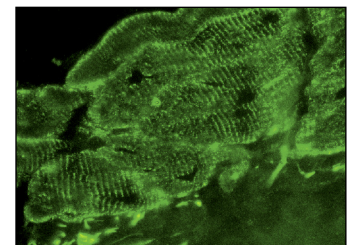
## RECOMMENDED SECONDARY REAGENTS

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 (M-290): sc-30230. Western blot analysis of Filaggrin expression in F9 (A), NIH/3T3 (B) and C4 (C) whole cell lysates and mouse embryo tissue extract (D).



Filaggrin (M-290): sc-30230. Immunofluorescence staining of normal mouse skin frozen section showing cytoskeletal staining.

## SELECT PRODUCT CITATIONS

- Mejetta, S., et al. 2011. Jarid2 regulates mouse epidermal stem cell activation and differentiation. *EMBO J.* 30: 3635-3646.
- Nakajima, T., et al. 2013. Roles of MED1 in quiescence of hair follicle stem cells and maintenance of normal hair cycling. *J. Invest. Dermatol.* 133: 354-360.

## RESEARCH USE

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