

involucrin (SPM259): sc-56555

BACKGROUND

Involucrin is a precursor protein of the keratinocyte cornified envelope, which is formed beneath the inner surface of the cell membrane during terminal differentiation. Involucrin first appears in the cell cytosol but ultimately becomes cross-linked to membrane proteins by transglutaminase. During keratinocyte terminal differentiation glutamine residues of involucrin become covalently cross-linked to other envelope precursors via covalent ϵ -(γ -glutamyl) lysine bonds. Moreover, its large size allows involucrin to cross-link molecules that are separated by substantial distances in the cornified envelope. These properties allow a single involucrin molecule to form multiple cross-links, in multiple spatial planes, with other envelope precursors. Involucrin is specifically expressed in Chinese hamster ovarian cells (fibroblasts), PtK2 rat kangaroo kidney cells (simple epithelial) and rat epidermal keratinocytes (stratifying squamous epithelial).

CHROMOSOMAL LOCATION

Genetic locus: IVL (human) mapping to 1q21.3; Ivl (mouse) mapping to 3 F1.

SOURCE

involucrin (SPM259) is a mouse monoclonal antibody raised against involucrin from keratinocytes of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

involucrin (SPM259) is recommended for detection of involucrin of mouse, rat, human, porcine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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); may cross-react with 170 kDa in MCF7 cells, a doublet of ~115 kDa and 150 kDa in gorilla and owl monkey, 66 kDa in canine, and a doublet of 105 kDa in porcine.

involucrin (SPM259) is also recommended for detection of involucrin in additional species, including porcine and canine.

Suitable for use as control antibody for involucrin siRNA (h): sc-35697, involucrin siRNA (m): sc-43367, involucrin shRNA Plasmid (h): sc-35697-SH, involucrin shRNA Plasmid (m): sc-43367-SH, involucrin shRNA (h) Lentiviral Particles: sc-35697-V and involucrin shRNA (m) Lentiviral Particles: sc-43367-V.

Molecular Weight of involucrin precursor: 68 kDa.

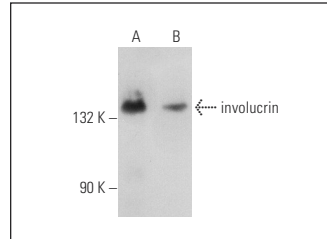
Molecular Weight of involucrin complexed with other proteins: 140 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263, HT-1080 whole cell lysate: sc-364183 or SK-BR-3 cell lysate: sc-2218.

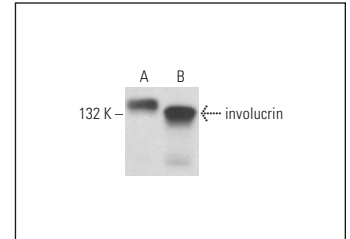
STORAGE

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

DATA



involucrin (SPM259): sc-56555. Western blot analysis of involucrin expression in RT-4 (A) and SK-BR-3 (B) whole cell lysates.



involucrin (SPM259): sc-56555. Western blot analysis of involucrin expression in CCD-1064Sk (A) and HT-1080 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Leinonen, P.T., et al. 2009. Reevaluation of the normal epidermal calcium gradient, and analysis of calcium levels and ATP receptors in Hailey-Hailey and Darier epidermis. *J. Invest. Dermatol.* 129: 1379-1387.
- Li, H., et al. 2012. Effects of multiple agents on epithelial differentiation of rabbit adipose-derived stem cells in 3D culture. *Tissue Eng. Part A* 18: 1760-1770.
- Nittayananta, W., et al. 2012. Changes in oral cytokeratin expression in HIV-infected subjects with long-term use of HAART. *Oral Dis.* 18: 793-801.
- Gyongyosi, E., et al. 2012. Effects of human papillomavirus (HPV) type 16 oncoproteins on the expression of involucrin in human keratinocytes. *Virology* 9: 36.
- Kang, S.Y.C., et al. 2015. Characterization of epithelial progenitors in normal human palatine tonsils and their HPV16 E6/E7-induced perturbation. *Stem Cell Reports* 5: 1210-1225.

RESEARCH USE

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

PROTOCOLS

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



See **involucrin (SY5): sc-21748** for involucrin antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488, Alexa Fluor[®] 546, Alexa Fluor[®] 594, Alexa Fluor[®] 647, Alexa Fluor[®] 680 and Alexa Fluor[®] 790.