

involucrin (SY8): sc-53361



The Power to Question

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).

REFERENCES

1. Eckert, R.L. and Green, H. 1986. Structure and evolution of the human involucrin gene. *Cell* 46: 583-589.
2. Rorke, E.A. and Eckert, R.L. 1991. Stable expression of transfected human involucrin gene in various cell types: evidence for *in situ* cross-linking by type I and type II transglutaminase. *J. Invest. Dermatol.* 97: 543-548.

CHROMOSOMAL LOCATION

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

SOURCE

involucrin (SY8) is a mouse monoclonal antibody raised against pure involucrin from keratinocytes of human origin.

PRODUCT

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

APPLICATIONS

involucrin (SY8) is recommended for detection of involucrin of human and porcine 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).

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

Molecular Weight of involucrin precursor: 68 kDa.

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

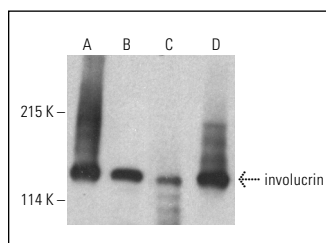
Positive Controls: MCF7 whole cell lysate: sc-2206, RT-4 whole cell lysate: sc-364257 or SK-BR-3 cell lysate: sc-2218.

RECOMMENDED SUPPORT REAGENTS

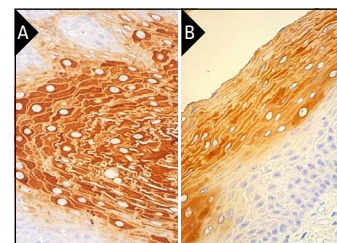
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.
- 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



involucrin (SY8): sc-53361. Western blot analysis of involucrin expression in SK-BR-3 (A), RT-4 (B) and normal human keratinocyte (C) whole cell lysates and human cervix tissue extract (D).



involucrin (SY8): sc-53361. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgG κ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216 (A,B).

SELECT PRODUCT CITATIONS

1. Wu, N.L., et al. 2011. TRAIL-induced keratinocyte differentiation requires caspase activation and p63 expression. *J. Invest. Dermatol.* 131: 874-883.
2. Howie, H.L., et al. 2011. β -HPV 5 and 8 E6 promote p300 degradation by blocking AKT/p300 association. *PLoS Pathog.* 7: e1002211.

STORAGE

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

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.