SANTA CRUZ BIOTECHNOLOGY, INC.

involucrin (SY8): sc-53361

SANTA CRUZ BIOTECHNOLOGY
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.
3. Yaffe, M.B., et al. 1992. Biophysical characterization of involucrin reveals a molecule ideally suited to function as an intermolecular cross-bridge of the keratinocyte cornified envelope. J. Biol. Chem. 267: 12233-12238.
4. Crish, J.F., et al. 1993. Tissue-specific and differentiation-appropriate expression of the human involucrin gene in transgenic mice: an abnormal epidermal phenotype. Differentiation 53: 191-200.
5. Takahashi, H., et al. 1995. Repression of involucrin gene expression by transcriptional enhancer factor 1 (TEF-1). Arch. Dermatol. Res. 287: 740-746.

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 µg IgG_1 kappa light chain 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.

PROTOCOLS

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

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 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (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.

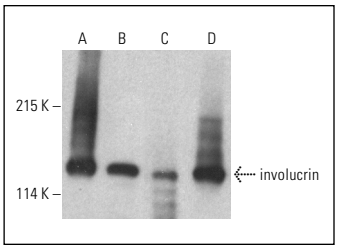
Molecular Weight of involucrin complexed with other proteins: 140 kDa.

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

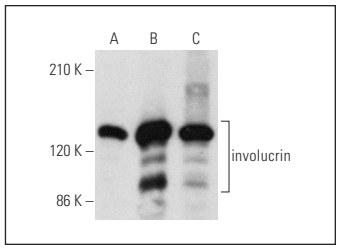
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

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. Western blot analysis of involucrin expression in MCF7 (**A**), RT-4 (**B**) and SK-BR-3 (**C**) whole cell lysates.

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.

RESEARCH USE

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