

involucrin (H-8): sc-398221

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

- Eckert, R.L. and Green, H. 1986. Structure and evolution of the human involucrin gene. *Cell* 46: 583-589.
- 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.
- Yaffe, M.B., Beegen, H. and Eckert, R.L. 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.
- Crish, J.F., Howard, J.M., Zaim, T.M., Murthy, S. and Eckert, R.L. 1993. Tissue-specific and differentiation-appropriate expression of the human involucrin gene in transgenic mice: an abnormal epidermal phenotype. *Differentiation* 53: 191-200.
- Takahashi, H., Kobayashi, H., Matsuo, S. and Iizuka, H. 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 (H-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 5-28 at the N-terminus of involucrin 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.

STORAGE

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

APPLICATIONS

involucrin (H-8) is recommended for detection of involucrin of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

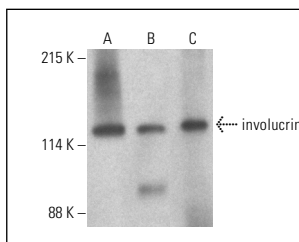
Molecular Weight of involucrin: 140 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, A-431 whole cell lysate: sc-2201 or HT-1080 whole cell lysate: sc-364183.

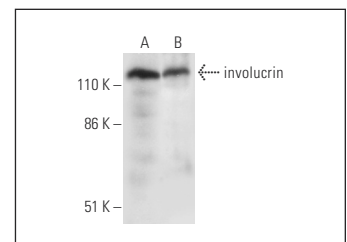
RECOMMENDED SUPPORT REAGENTS

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.

DATA



involucrin (H-8): sc-398221. Western blot analysis of involucrin expression in SK-BR-3 (A) and RT-4 (B) whole cell lysates and human cervix tissue extract (C).



involucrin (H-8): sc-398221. Western blot analysis of involucrin expression in A-431 (A) and HT-1080 (B) whole cell lysates.

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.

CONJUGATES

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