

Ichthyin (N-12): sc-133279

BACKGROUND

Ichthyin (ICHN) is a 466 amino acid protein that is highly expressed in brain, lung, stomach, keratinocytes and leukocytes, and is localized to the cellular membrane as a multi-pass membrane protein. Ichthyin is expressed as two isoforms and is thought to possibly be a membrane receptor for the hepxilin pathway. An ortholog of Ichthyin in *Drosophila melanogaster* is spichthyin (Spict). In the event that Spict is not functional, bone morphogenetic protein (BMP) signaling is upregulated and expansion of the neuromuscular junction occurs. Spict is thought to inhibit BMP signaling and the upregulation of BMP is thought to be associated with autosomal recessive congenital ichthyosis (ARCI). ARCI is a group of skin disorders varying in severity and phenotypes and the association between genotype and phenotype is not well understood in patients with ARCI. Non-bullous congenital ichthyosiform erythroderma (NCIE) is a phenotype of ARCI which is common in the event that the gene encoding Ichthyin is mutated. As a possible ligand receptor for the hepxilin pathway, Ichthyin's ligand-receptor interactions may be a potential target for treatment of dry skin.

REFERENCES

1. Lefèvre, C., Bouadjar, B., Karaduman, A., Jobard, F., Saker, S., Ozguc, M., Lathrop, M., Prud'homme, J.F. and Fischer, J. 2004. Mutations in Ichthyin a new gene on chromosome 5q33 in a new form of autosomal recessive congenital ichthyosis. *Hum. Mol. Genet.* 13: 2473-2482.
2. Victor, F. and Schaffer, J.V. 2005. Lamellar ichthyosis. *Dermatol. Online J.* 11: 13.
3. Akiyama, M. 2006. Harlequin ichthyosis and other autosomal recessive congenital ichthyoses: the underlying genetic defects and pathomechanisms. *J. Dermatol. Sci.* 42: 83-89.
4. Dahlqvist, J., Klar, J., Hausser, I., Anton-Lamprecht, I., Pigg, M.H., Gedde-Dahl, T., Gånemo, A., Vahlquist, A. and Dahl, N. 2007. Congenital ichthyosis: mutations in Ichthyin are associated with specific structural abnormalities in the granular layer of epidermis. *J. Med. Genet.* 44: 615-620.
5. Wang, X., Shaw, W.R., Tsang, H.T., Reid, E. and O'Kane, C.J. 2007. *Drosophila* spichthyin inhibits BMP signaling and regulates synaptic growth and axonal microtubules. *Nat. Neurosci.* 10: 177-185.

CHROMOSOMAL LOCATION

Genetic locus: ICHTHYIN (human) mapping to 5q33.3.

SOURCE

Ichthyin (N-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of Ichthyin of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-133279 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ichthyin (N-12) is recommended for detection of Ichthyin of human 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)], 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 Ichthyin siRNA (h): sc-91664, Ichthyin shRNA Plasmid (h): sc-91664-SH and Ichthyin shRNA (h) Lentiviral Particles: sc-91664-V.

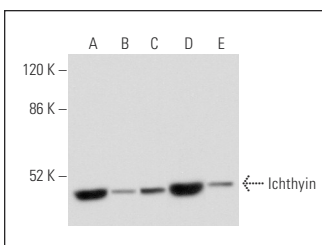
Molecular Weight of Ichthyin: 50 kDa.

Positive Controls: A549 cell lysate: sc-2413, WI-38 whole cell lysate: sc-364260 or HeLa whole cell lysate: sc-2200.

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



Ichthyin (N-12): sc-133279. Western blot analysis of Ichthyin expression in A549 (A), HeLa (B), C32 (C), WI-38 (D) and Hep G2 (E) whole cell lysates.

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 or our catalog for detailed protocols and support products.