SANTA CRUZ BIOTECHNOLOGY, INC.

encephalopsin (H-76): sc-98799

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Encephalopsin is the first putative extraocular opsin identified in mammals and may play a role in encephalic photoreception. Also designated panopsin, encephalopsin may play a role in non-visual photic processes such as the entrainment of circadian rhythm or the regulation of pineal melatonin production. Encephalopsin shows strong and specific expression in the brain. In the cortex and cerebellum, encephalopsin expression is considerably higher and more highly patterned in the adult than in the neonate. In addition to encephalopsin, other classical visual opsins Rgr-opsin, peropsin and melanopsin are all expressed in fetal development by E11.5, unlike the murine rod and cone opsins that exhibit post-natal expression, such as P1 for ultraviolet cone opsin and P5 for rod opsin.

REFERENCES

1. Blackshaw, S. and Snyder, S.H. 1999. Encephalopsin: a novel mammalian extraretinal opsin discretely localized in the brain. J. Neurosci. 19: 3681-3690.
2. Kasper, G., Taudien, S., Staub, E., Mennerich, D., Rieder, M., Hinzmann, B., Dahl, E., Schwidetzky, U., Rosenthal, A. and Rump, A. 2002. Different structural organization of the encephal-opsin gene in man and mouse. Gene 295: 27-32.
3. Tarttelin, E.E., Bellingham, J., Bibb, L.C., Foster, R.G., Hankins, M.W., Gregory-Evans, K., Gregory-Evans, C.Y., Wells, D.J. and Lucas, R.J. 2003. Expression of opsin genes early in ocular development of humans and mice. Exp. Eye Res. 76: 393-396.
4. Kumbalasiri, T., Provencio, I. 2005. Melanopsin and other novel mammalian opsins. Exp. Eye Res. 81: 368-375.

CHROMOSOMAL LOCATION

Genetic locus: OPN3 (human) mapping to 1q43; Opn3 (mouse) mapping to 1 H3.

SOURCE

encephalopsin (H-76) is a rabbit polyclonal antibody raised against amino acids 327-402 mapping at the C-terminus of encephalopsin of human origin.

PRODUCT

Each vial contains 200 µg IgG 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 or our catalog for detailed protocols and support products.

APPLICATIONS

encephalopsin (H-76) is recommended for detection of encephalopsin of mouse, rat and 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).

encephalopsin (H-76) is also recommended for detection of encephalopsin in additional species, including equine and canine.

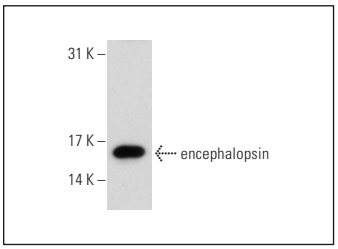
Suitable for use as control antibody for encephalopsin siRNA (h): sc-45989, encephalopsin siRNA (m): sc-45990, encephalopsin shRNA Plasmid (h): sc-45989-SH, encephalopsin shRNA Plasmid (m): sc-45990-SH, encephalopsin shRNA (h) Lentiviral Particles: sc-45989-V and encephalopsin shRNA (m) Lentiviral Particles: sc-45990-V.

Positive Controls: SK-N-MC cell lysate: sc-2237.

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



encephalopsin (H-76): sc-98799. Western blot analysis of encephalopsin expression in SK-N-MC whole cell lysate.

RESEARCH USE

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