

zygin 1 (E-15): sc-161278

BACKGROUND

Zygin 1, also known as FEZ1 (fasciculation and elongation protein ζ 1), is a 392 amino acid cytoplasmic protein that is translocated from the plasma membrane to the cytoplasm by activation of PKC ζ . PKC ζ also enhances zygin 1 interaction with UFD2 and polyubiquitination. Expressed mainly in brain, zygin 1 is a mammalian ortholog of *Caenorhabditis elegans* UNC-76 and is able to restore partial locomotion and axonal fasciculation to *C. elegans* UNC-76 mutants, which suggest a functional role in axonal outgrowth. As component of the network of molecules that regulate cellular morphology and axon guidance machinery, zygin 1 may also be involved in microtubule associated transport and transcriptional regulation. Mutations in the gene encoding zygin 1 may be linked to the pathogenesis of schizophrenia. Zygin 1 exists as two alternatively spliced isoforms that are designated isoform long and isoform short.

REFERENCES

1. Naghavi, M.H., Hatzioannou, T., Gao, G. and Goff, S.P. 2005. Overexpression of fasciculation and elongation protein ζ -1 (FEZ1) induces a post-entry block to retroviruses in cultured cells. *Genes Dev.* 19: 1105-1115.
2. Ikuta, J., Maturana, A., Fujita, T., Okajima, T., Tatematsu, K., Tanizawa, K. and Kuroda, S. 2007. Fasciculation and elongation protein ζ -1 (FEZ1) participates in the polarization of hippocampal neuron by controlling the mitochondrial motility. *Biochem. Biophys. Res. Commun.* 353: 127-132.
3. Fujita, T., Maturana, A.D., Ikuta, J., Hamada, J., Walchli, S., Suzuki, T., Sawa, H., Wooten, M.W., Okajima, T., Tatematsu, K., Tanizawa, K. and Kuroda, S. 2007. Axonal guidance protein FEZ1 associates with tubulin and kinesin motor protein to transport mitochondria in neurites of NGF-stimulated PC12 cells. *Biochem. Biophys. Res. Commun.* 361: 605-610.
4. Lanza, D.C., Trindade, D.M., Assmann, E.M. and Kobarg, J. 2008. Overexpression of GFP-FEZ1 causes generation of multi-lobulated nuclei mediated by microtubules in HEK293 cells. *Exp. Cell Res.* 314: 2028-2039.

CHROMOSOMAL LOCATION

Genetic locus: FEZ1 (human) mapping to 11q24.2; Fez1 (mouse) mapping to 9 A4.

SOURCE

zygin 1 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of zygin 1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-161278 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

zygin 1 (E-15) is recommended for detection of zygin 1 of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with zygin 2.

zygin 1 (E-15) is also recommended for detection of zygin 1 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for zygin 1 siRNA (h): sc-96452, zygin 1 siRNA (m): sc-37411, zygin 1 shRNA Plasmid (h): sc-96452-SH, zygin 1 shRNA Plasmid (m): sc-37411-SH, zygin 1 shRNA (h) Lentiviral Particles: sc-96452-V and zygin 1 shRNA (m) Lentiviral Particles: sc-37411-V.

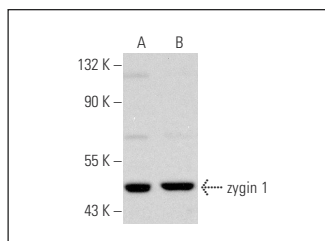
Molecular Weight of zygin 1: 45 kDa.

Positive Controls: DU 145 cell lysate: sc-2268 or T24 cell lysate: sc-2292.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



zygin 1 (E-15): sc-161278. Western blot analysis of zygin 1 expression in DU 145 (A) and T24 (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 or our catalog for detailed protocols and support products.