

AZ3 (N-16): sc-162561

BACKGROUND

The antizyme family is a group of small proteins that play a role in cell growth and division by regulating the biosynthesis of polyamines such as putrescine, spermidine and spermine. AZ3, also known as OAZ3 (ornithine decarboxylase antizyme 3), is a 187 amino acid protein that belongs to the ODC antizyme family. AZ3 probably plays a key role in spermatogenesis by regulating the intracellular concentration of polyamines in haploid germ cells because it binds to, and destabilizes, ornithine decarboxylase. However, mutations in the AZ3 gene are not a common cause of male infertility and the normal AZ3 protein does not accelerate ornithine decarboxylase degeneration. AZ3 expression has a sharp onset in early spermatids, peaks in later stages and is gone in spermatozoa. The AZ3 gene maps to human chromosome 1q21.3.

REFERENCES

- Coffino, P. 2000. Polyamines in spermiogenesis: not now, darling. *Proc. Natl. Acad. Sci. USA* 97: 4421-4423.
- Ivanov, I.P., et al. 2000. Discovery of a spermatogenesis stage-specific ornithine decarboxylase antizyme: antizyme 3. *Proc. Natl. Acad. Sci. USA* 97: 4808-4813.
- Online Mendelian Inheritance in Man, OMIM[™]. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605138. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Ota, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. *Nat. Genet.* 36: 40-45.
- Zhang, J., et al. 2005. Yeast two-hybrid screens imply that GGNBP1, GGNBP2 and OAZ3 are potential interaction partners of testicular germ cell-specific protein GGN1. *FEBS Lett.* 579: 559-566.
- Christensen, G.L., et al. 2006. Identification of polymorphisms and balancing selection in the male infertility candidate gene, ornithine decarboxylase antizyme 3. *BMC Med. Genet.* 7: 27.
- Fitzgerald, C., et al. 2006. Mammalian transcription in support of hybrid mRNA and protein synthesis in testis and lung. *J. Biol. Chem.* 281: 38172-38180.
- Geerts, D., et al. 2010. The polyamine metabolism genes ornithine decarboxylase and antizyme 2 predict aggressive behavior in neuroblastomas with and without MYCN amplification. *Int. J. Cancer* 126: 2012-2024.

CHROMOSOMAL LOCATION

Genetic locus: OAZ3 (human) mapping to 1q21.3.

SOURCE

AZ3 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of AZ3 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-162561 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AZ3 (N-16) is recommended for detection of AZ3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 AZ1 or AZ2.

AZ3 (N-16) is also recommended for detection of AZ3 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for AZ3 siRNA (h): sc-88239, AZ3 shRNA Plasmid (h): sc-88239-SH and AZ3 shRNA (h) Lentiviral Particles: sc-88239-V.

Molecular Weight of AZ3: 21 kDa.

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) 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.

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.