

ART3 (K-16): sc-74324

BACKGROUND

Mono-ADP-ribosylation is one of the posttranslational protein modifications regulating cellular metabolism (e.g. nitrogen fixation) in prokaryotes. Mono-ADP-ribosylation is a process in which the ADP-ribose moiety of nicotinamide adenine dinucleotide is transferred to an acceptor amino acid. Five mammalian ADP-ribosyltransferases (ART1-ART5) have been cloned and expression is restricted to tissues such as cardiac and skeletal muscle, leukocytes, brain and testis. ART3 (ADP-ribosyltransferase 3), also known as ecto-ADP-ribosyltransferase 3, is a testis specific membrane protein that does not appear to have ADP-ribosyltransferase activity. It lacks the R-S-EXE active site motif and is therefore unable to catalyze the reaction. ART3 is predominantly found in spermatocytes and may play a role in spermatogenesis.

REFERENCES

- Okazaki, I.J., Zolkiewska, A., Nightingale, M.S. and Moss, J. 1994. Immunological and structural conservation of mammalian skeletal muscle glycosylphosphatidylinositol-linked ADP-ribosyltransferases. *Biochemistry* 33: 12828-13836.
- Koch-Nolte, F., Haag, F., Braren, R., Kuhl, M., Hoovers, J., Balasubramanian, S., Bazan, F. and Thiele, H.G. 1997. Two novel human members of an emerging mammalian gene family related to mono-ADP-ribosylating bacterial toxins. *Genomics* 39: 370-376.
- Braren, R., Glowacki, G., Nissen, M., Haag, F. and Koch-Nolte, F. 1998. Molecular characterization and expression of the gene for mouse NAD⁺: arginine ecto-mono (ADP-ribosyl) transferase, ART1. *Biochem. J.* 336: 561-568.
- Okazaki, I.J. and Moss, J. 1999. Characterization of glycosylphosphatidylinositol-anchored, secreted, and intracellular vertebrate mono-ADP-ribosyltransferases. *Annu. Rev. Nutr.* 19: 485-50.
- Koch-Nolte, F., Glowacki, G., Bannas, P., Braasch, F., Dubberke, G., Ortolan, E., Funaro, A., Malavasi, F. and Haag, F. 2005. Use of genetic immunization to raise antibodies recognizing toxin-related cell surface ADP-ribosyltransferases in native conformation. *Cell. Immunol.* 236: 66-71.
- Friedrich, M., Grahner, A., Klein, C., Tschöp, K., Engeland, K. and Hauschildt, S. 2006. Genomic organization and expression of the human mono-ADP-ribosyltransferase ART3 gene. *Biochim. Biophys. Acta* 1759: 270-280.
- Friedrich, M., Grahner, A., Paasch, U., Tannapfel, A., Koch-Nolte, F. and Hauschildt, S. 2006. Expression of toxin-related human mono-ADP-ribosyltransferase 3 in human testes. *Asian J. Androl.* 8: 281-287.
- Muller, O., Pradervand, S., Berger, S., Centeno, G., Milet, A., Nicod, P., Pedrazzini, T., Tronche, F., Schütz, G., Chien, K., Rossier, B.C. and Firsov, D. 2007. Identification of corticosteroid-regulated genes in cardiomyocytes by serial analysis of gene expression. *Genomics* 89: 370-377.
- Okada, H., Tajima, A., Shichiri, K., Tanaka, A., Tanaka, K. and Inoue, I. 2008. Genome-wide expression of azoospermia testes demonstrates a specific profile and implicates ART3 in genetic susceptibility. *PLoS Genet.* 4: e26-e26.

CHROMOSOMAL LOCATION

Genetic locus: ART3 (human) mapping to 4q21.1.

SOURCE

ART3 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ART3 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.

Blocking peptide available for competition studies, sc-74324 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ART3 (K-16) is recommended for detection of ART3 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).

Suitable for use as control antibody for ART3 siRNA (h): sc-72537, ART3 shRNA Plasmid (h): sc-72537-SH and ART3 shRNA (h) Lentiviral Particles: sc-72537-V.

Molecular Weight of ART3: 37 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.

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.