ALG13 (N-16): sc-169945



The Power to Question

BACKGROUND

ALG13 (asparagine-linked glycosylation 13 homolog), also known as UDP-N-acetylglucosamine transferase subunit ALG13 homolog or glycosyltransferase 28 domain-containing protein 1, is a 1,137 amino acid protein belonging to the glycosyltransferase 28 family. Encoded by a gene that maps to human chromosome Xq23, ALG13 is a subunit of a bipartite UDP-N-acetylglucosamine transferase and plays a role in protein folding regulation and stabilization. ALG13 contains one OTU domain, one TudorSN domain, and exists as four alternatively spliced isoforms. Heterodimerizing with ALG14, ALG13 forms a UDP-GlcNAc glycosyltransferase, which catalyzes the second sugar addition of the oligosaccharide precursor in endoplasmic reticulum (ER) N-linked glycosylation. ALG13 localizes to ER and may be recruited to the cytosolic face of the membrane by interacting with ALG14.

REFERENCES

- Gao, X.D., et al. 2005. Alg14 recruits Alg13 to the cytoplasmic face of the endoplasmic reticulum to form a novel bipartite UDP-N-acetylglucosamine transferase required for the second step of N-linked glycosylation. J. Biol. Chem. 280: 36254-36262.
- Abu-Qarn, M., et al. 2006. Protein N-glycosylation in Archaea: defining Haloferax volcanii genes involved in S-layer glycoprotein glycosylation. Mol. Microbiol. 61: 511-525.
- Averbeck, N., et al. 2007. Membrane topology of the Alg14 endoplasmic reticulum UDP-GlcNAc transferase subunit. J. Biol. Chem. 282: 29081-29088.
- 4. Gao, X.D., et al. 2008. Interaction between the C termini of Alg13 and Alg14 mediates formation of the active UDP-N-acetylglucosamine transferase complex. J. Biol. Chem. 283: 32534-32541.
- 5. Averbeck, N., et al. 2008. Alg13p, the catalytic subunit of the endoplasmic reticulum UDP-GlcNAc glycosyltransferase, is a target for proteasomal degradation. Mol. Biol. Cell 19: 2169-2178.
- Wang, X., et al. 2008. Solution structure of Alg13: the sugar donor subunit of a yeast N-acetylglucosamine transferase. Structure 16: 965-975.
- Chaban, B., et al. 2009. AgIC and AgIK are involved in biosynthesis and attachment of diacetylated glucuronic acid to the N-glycan in Methanococcus voltae. J. Bacteriol. 191: 187-195.
- Li, B.Z., et al. 2010. Transcriptome shifts in response to furfural and acetic acid in *Saccharomyces cerevisiae*. Appl. Microbiol. Biotechnol. 86: 1915-1924.

CHROMOSOMAL LOCATION

Genetic locus: ALG13 (human) mapping to Xq23.

SOURCE

ALG13 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ALG13 of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-169945 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ALG13 (N-16) is recommended for detection of ALG13 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 other ALG family members.

Suitable for use as control antibody for ALG13 siRNA (h): sc-91187, ALG13 shRNA Plasmid (h): sc-91187-SH and ALG13 shRNA (h) Lentiviral Particles: sc-91187-V.

Molecular Weight of ALG13: 126 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) 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**