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Product Information

Anti-TGN46

produced in rabbit, affinity isolated antibody

Catalog Number **T7576**

Product Description

Anti-TGN46 is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 426-437 of human TGN46 with N-terminal added cysteine, conjugated to KLH. The corresponding sequence is identical in monkey and differs by three amino acids in rat and mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-TGN46 recognizes human TGN46. Applications include immunoblotting (80-100 kDa), immunoprecipitation, and immunofluorescence. Detection of the TGN46 band by immunoblotting is specifically inhibited by the immunizing peptide.

TGN46 (Trans-Golgi network protein, 46 kDa), the human homologue of rat TGN38, is a resident integral membrane protein of the trans-Golgi network (TGN) that cycles constitutively between the TGN and the plasma membrane, returning via endosomes.^{1,2} The trans-Golgi network (TGN) is a dynamic tubulovesicular structure adjacent to the distal face of the Golgi apparatus. The TGN is the major sorting compartment of the secretory pathway for proteins, lipids and membrane traffic. It is suggested that the TGN may be organized into distinct subdomains formed by the recruitment and assembly of different arrays of protein complexes. These specialized sorting domains may give rise to distinct populations of vesicle carriers that mediate delivery of secretory and membrane proteins to the plasma membrane, lysosomes, endosomes, and secretory granules.³⁻⁵ TGN46 is a heavily glycosylated protein, probably involved in regulating membrane traffic to and from the TGN. TGN46 contains a signal peptide, lumenal domain, membrane-spanning domain, and cytoplasmic domain. The membrane spanning region and cytoplasmic tail contain the retention and retrieval signals, respectively, for localization in the TGN.¹ Three alternative spliced isoforms exist in human: TGN46, TGN48, and TGN51. All 3 isoforms localized mostly to the TGN. TGN46 is widely expressed, TGN51 is more abundant in fetal

lung and kidney, TGN48 is barely expressed in embryonic kidney and promyelocytic cells.⁶ Anti-TGN46 may be used as a TGN marker.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 0.25-0.5 µg/mL is recommended using extracts of human HEK-293T cells expressing recombinant human TGN46 and a chemiluminescent detection reagent.

Immunoprecipitation: 10-20 µg of the antibody immunoprecipitates TGN46 from human A549 cells.

Indirect immunofluorescence: a working concentration of 5-10 µg/mL is recommended using human A549 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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6. Kain, R., et al., *J. Biol. Chem.*, **273**, 981-988 (1998).

ST,KAA,PHC 10/06-1

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