

Product Information

Monoclonal Anti-TGN46

Clone TGN46-52, produced in Mouse
Purified Immunoglobulin

SAB4200235

Product Description

Monoclonal Anti-TGN46 (mouse IgG1 isotype) is derived from the hybridoma TGN46-52 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to a fragment of human TGN46 (GeneID: 10618), conjugated to KLH. The corresponding sequence is identical in monkey and differs by 3 amino acids in rat and mouse TGN46. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, (Cat. No. ISO2). The antibody is affinity-purified from culture supernatant of hybridoma cells grown in a bioreactor, using the immunizing peptide immobilized on agarose.

Monoclonal Anti-TGN46 recognizes human TGN46. The antibody may be used in various immunochemical techniques including immunoblotting (80–100 kDa) and immunoprecipitation. 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), which cycles constitutively between the TGN and the plasma membrane, returning via endosomes.^{1,2} The trans-Golgi network (TGN) is a dynamic tubulo-vesicular 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 was 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.^{3,4,5}

TGN46 is a heavily glycosylated protein, probably involved in regulating membrane traffic to and from the TGN. TGN46 contains a signal peptide, a lumenal domain, a membrane-spanning domain, and a cytoplasmic domain. The membrane spanning region and the 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 localize mostly to the TGN. TGN46 is widely expressed, TGN51 is more abundant in fetal lung and kidney, and 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: ~ 1.0 mg/mL

Precautions and Disclaimer

For research use only. Not for drug, household, or other uses. Please consult the 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 at –20 °C 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 dilution samples should be discarded if not used within 12 hours.

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Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using whole extracts of HEK-293T cells over-expressing human TGN46.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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SAB4200235dat Rev 05/21

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