

## Datasheet: AHP500G

**BATCH NUMBER 168412**

<b>Description:</b>	SHEEP ANTI HUMAN TGN46
<b>Specificity:</b>	TGN46
<b>Other names:</b>	TGOLN2
<b>Format:</b>	Purified
<b>Product Type:</b>	Polyclonal Antibody
<b>Isotype:</b>	Polyclonal IgG
<b>Quantity:</b>	25 µg

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen (1)	▪			0.1ug/ml - 1ug/ml
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting	▪			0.1ug/ml - 1ug/ml
Immunofluorescence	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

**(1) Fixation with 3% paraformaldehyde or methanol/acetone is recommended.**

### Target Species

Human

### Species Cross Reactivity

Reacts with: Primate

**N.B.** Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

### Product Form

Purified IgG - liquid

**Antiserum Preparation** Antisera to human TGN46 were raised by repeated immunisation of sheep with highly purified antigen. Purified IgG prepared by affinity chromatography.

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**Buffer Solution** Phosphate buffered saline

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**Preservative** <0.1% Sodium Azide (NaN<sub>3</sub>)  
**Stabilisers** 0.5% Bovine Serum Albumin  
25% Glycerol

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**Approx. Protein Concentrations** IgG concentration 0.25 mg/ml

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**Immunogen** Recombinant human TGN46.

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**External Database Links**

**UniProt:**

[O43493](#)

[Related reagents](#)

**Entrez Gene:**

[10618](#)

TGOLN2

[Related reagents](#)

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**Synonyms** TGN46, TGN51

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**RRID** AB\_323104

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**Specificity** **Sheep anti Human TGN46 antibody** recognizes trans-Golgi network integral membrane protein 2 (TGOLN2), also known as TGN38 homolog, TGN46, TGN48 or trans-Golgi network protein TGN51. TGN46 is a 437 amino acid glycoprotein localized to the trans-Golgi network. TGN46 has been reported as being the best available marker for human trans-Golgi network.

TGN46 is a heavily glycosylated protein of around 110-120 kDa. Multiple isoforms of TGN46 are generated by alternative splicing differing in sequence at the C-terminal portion. Sheep anti Human TGN46 antibody is expected to recognize all identified isoforms.

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#### References

1. Prescott AR *et al.* (1997) Distinct compartmentalization of TGN46 and beta 1,4-galactosyltransferase in HeLa cells. [Eur J Cell Biol. 72 \(3\): 238-46.](#)
2. van Dam, E.M. *et al.* (2002) Dynamin-dependent transferrin receptor recycling by endosome-derived clathrin-coated vesicles. [Mol Biol Cell. 13: 169-82.](#)
3. Salahpour, A. *et al.* (2004) Homodimerization of the beta2-adrenergic receptor as a prerequisite for cell surface targeting. [J Biol Chem. 279 \(32\): 33390-7.](#)
4. Drakesmith, H. *et al.* (2005) HIV-1 Nef down-regulates the hemochromatosis protein HFE, manipulating cellular iron homeostasis. [Proc Natl Acad Sci U S A. 102 \(31\): 11017-22.](#)
5. Mills, I.G. *et al.* (2005) Huntingtin interacting protein 1 modulates the transcriptional activity of nuclear hormone receptors. [J Cell Biol. 170 \(2\): 191-200.](#)
6. Mills, I.G. *et al.* (2005) Huntingtin interacting protein 1 modulates the transcriptional activity of nuclear hormone receptors. [J Cell Biol. 170: 191-200.](#)

7. Vuillier, F. *et al.* (2005) Lower levels of surface B-cell-receptor expression in chronic lymphocytic leukemia are associated with glycosylation and folding defects of the mu and CD79a chains. [Blood. 105 \(7\): 2933-40.](#)
8. Berarducci, B. *et al.* (2006) Essential functions of the unique N-terminal region of the varicella-zoster virus glycoprotein E ectodomain in viral replication and in the pathogenesis of skin infection. [J Virol. 80: 9481-96.](#)
9. Edwards, T.L. *et al.* (2009) Endogenous spartin (SPG20) is recruited to endosomes and lipid droplets and interacts with the ubiquitin E3 ligases AIP4 and AIP5. [Biochem J. 423 \(1\): 31-9.](#)
10. Esk, C. *et al.* (2010) The clathrin heavy chain isoform CHC22 functions in a novel endosomal sorting step. [J Cell Biol. 188: 131-44.](#)
11. Vleck, S.E. *et al.* (2010) Anti-glycoprotein H antibody impairs the pathogenicity of varicella-zoster virus in skin xenografts in the SCID mouse model. [J Virol. 84: 141-52.](#)
12. Sadaoka, T. *et al.* (2010) Characterization of the varicella-zoster virus ORF50 gene, which encodes glycoprotein M. [J Virol. 84: 3488-502.](#)
13. Hauser, H. *et al.* (2010) HIV-1 Vpu and HIV-2 Env counteract BST-2/tetherin by sequestration in a perinuclear compartment. [Retrovirology. 7: 51.](#)
14. Roberts, R.C. *et al.* (2010) Mistargeting of SH3TC2 away from the recycling endosome causes Charcot-Marie-Tooth disease type 4C. [Hum Mol Genet. 19: 1009-18.](#)
15. Fairn, G.D. *et al.* (2011) High-resolution mapping reveals topologically distinct cellular pools of phosphatidylserine. [J Cell Biol. 194 \(2\): 257-75.](#)
16. Vleck, S.E. *et al.* (2011) Structure-function analysis of varicella-zoster virus glycoprotein H identifies domain-specific roles for fusion and skin tropism. [Proc Natl Acad Sci U S A. 108 \(45\): 18412-7.](#)
17. Oliver, S.L. *et al.* (2011) Mutagenesis of varicella-zoster virus glycoprotein I (gI) identifies a cysteine residue critical for gE/gI heterodimer formation, gI structure, and virulence in skin cells. [J Virol. 85 \(9\): 4095-110.](#)
18. Petit, S.J. *et al.* (2011) Analysis of the human immunodeficiency virus type 1 M group Vpu domains involved in antagonizing tetherin. [J Gen Virol. 92 \(Pt 12\): 2937-48.](#)
19. Zuckerman, D.M. *et al.* (2011) Differential regulation of two palmitoylation sites in the cytoplasmic tail of the beta1-adrenergic receptor. [J Biol Chem. 286: 19014-23.](#)
20. Laufman, O. *et al.* (2011) The COG complex interacts directly with Syntaxin 6 and positively regulates endosome-to-TGN retrograde transport. [J Cell Biol. 194 \(3\): 459-72.](#)
21. Uchida, Y. *et al.* (2011) Intracellular phosphatidylserine is essential for retrograde membrane traffic through endosomes. [Proc Natl Acad Sci U S A. 108 \(38\): 15846-51.](#)
22. Cheng, S.B. *et al.* (2011) Down-modulation of the G-protein-coupled Estrogen Receptor, GPER, from the Cell Surface Occurs via a trans-Golgi-Proteasome Pathway. [J Biol Chem. 286: 22441-55.](#)
23. Kwon, S. and Christian, J.L. (2011) Sortilin Associates with Transforming Growth Factor- $\beta$  Family Proteins to Enhance Lysosome-mediated Degradation. [J Biol Chem. 286: 21876-85.](#)
24. Kawabata, A. *et al.* (2011) Analysis of a Neutralizing Antibody for Human Herpesvirus 6B Reveals a Role for Glycoprotein Q1 in Viral Entry. [J Virol. 85: 12962-71.](#)
25. Cornfine, S. *et al.* (2011) The kinesin KIF9 and reggie/flotillin proteins regulate matrix degradation by macrophage podosomes. [Mol Biol Cell. 22: 202-15.](#)
26. Vorobyeva, A.G. *et al.* (2014) Cycloamine modulates  $\gamma$ -secretase-mediated cleavage of amyloid precursor protein by altering its subcellular trafficking and lysosomal

- degradation. [J Biol Chem. 289 \(48\): 33258-74.](#)
27. Chia, R. *et al.* (2014) Phosphorylation of LRRK2 by casein kinase 1 $\alpha$  regulates trans-Golgi clustering via differential interaction with ARHGEF7. [Nat Commun. 5: 5827.](#)
28. Wang Z *et al.* (2014) A newly identified myomegalin isoform functions in Golgi microtubule organization and ER-Golgi transport. [J Cell Sci. 127 \(22\): 4904-17.](#)
29. DiGiuseppe, S. *et al.* (2015) Topography of the Human Papillomavirus Minor Capsid Protein L2 during Vesicular Trafficking of Infectious Entry. [J Virol. 89 \(20\): 10442-52.](#)
30. Gottschalk, E.Y. & Meneses, P.I. (2015) A Dual Role for the Nonreceptor Tyrosine Kinase Pyk2 during the Intracellular Trafficking of Human Papillomavirus 16. [J Virol. 89 \(17\): 9103-14.](#)
31. Ioannou, M.S. *et al.* (2015) DENND2B activates Rab13 at the leading edge of migrating cells and promotes metastatic behavior. [J Cell Biol. 208 \(5\): 629-48.](#)
32. El Kasmi, I. & Lippé, R. (2015) Herpes simplex virus 1 gN partners with gM to modulate the viral fusion machinery. [J Virol. 89 \(4\): 2313-23.](#)
33. Luo, S. *et al.* (2015) Contribution of N-linked glycans on HSV-2 gB to cell-cell fusion and viral entry. [Virology. 483: 72-82.](#)
34. Ikawa Y *et al.* (2015) *In vitro* functional correction of Hermansky-Pudlak Syndrome type-1 by lentiviral-mediated gene transfer. [Mol Genet Metab. 114 \(1\): 62-5.](#)
35. Crevenna, A.H. *et al.* (2016) Secretory cargo sorting by Ca<sup>2+</sup>-dependent Cab45 oligomerization at the trans-Golgi network. [J Cell Biol. 213 \(3\): 305-14.](#)
36. Matrone, C. *et al.* (2016) Mannose 6-Phosphate Receptor Is Reduced in -Synuclein Overexpressing Models of Parkinsons Disease. [PLoS One. 11 \(8\): e0160501.](#)
37. Haugsten, E.M. *et al.* (2016) Proximity Labeling Reveals Molecular Determinants of FGFR4 Endosomal Transport. [J Proteome Res. 15 \(10\): 3841-55.](#)
38. Paquin, N. *et al.* (2016) The Conserved VPS-50 Protein Functions in Dense-Core Vesicle Maturation and Acidification and Controls Animal Behavior. [Curr Biol. 26 \(7\): 862-71.](#)
39. Ketteler, R. *et al.* (2017) Image-based siRNA screen to identify kinases regulating Weibel-Palade body size control using electroporation. [Sci Data. 4: 170022.](#)
40. Lukhele, S. & Cohen É.A. (2017) Conserved residues within the HIV-1 Vpu transmembrane-proximal hinge region modulate BST2 binding and antagonism. [Retrovirology. 14 \(1\): 18.](#)
41. Sugden, S.M. *et al.* (2017) HIV-1 Vpu Downmodulates ICAM-1 Expression, Resulting in Decreased Killing of Infected CD4<sup>+</sup> T Cells by NK Cells. [J Virol. 91 \(8\): pii: e02442-16.](#)
42. Cabukusta, B. *et al.* (2017) Ceramide phosphoethanolamine synthase SMSr is a target of Caspase-6 during apoptotic cell death. [Biosci Rep. 37 \(4\): BSR20170867.](#)
43. Luchsinger, C. *et al.* (2018) Functional disruption of the Golgi apparatus protein ARF1 sensitizes MDA-MB-231 breast cancer cells to the antitumor drugs Actinomycin D and Vinblastine through ERK and AKT signaling. [PLoS One. 13 \(4\): e0195401.](#)
44. Ayala, I. *et al.* (2019) GRASP65 controls Golgi position and structure during G2/M transition by regulating the stability of microtubules. [Traffic. 20 \(10\): 785-802.](#)
45. Piccolo, P. *et al.* (2019) Geleophysic dysplasia: novel missense variants and insights into ADAMTSL2 intracellular trafficking. [Mol Genet Metab Rep. 21: 100504.](#)
46. Cavieres, V.A. *et al.* (2020) Human Golgi phosphoprotein 3 is an effector of RAB1A and RAB1B. [PLoS One. 15 \(8\): e0237514.](#)
47. Sakuma, C. *et al.* (2021) Identification of SYS1 as a Host Factor Required for Shiga Toxin-Mediated Cytotoxicity in Vero Cells [Int J Mol Sci 22 \(9\): 4936.](#)

48. Besemer, A.S. *et al.* (2021) Receptor-mediated endocytosis 8 (RME-8)/DNAJC13 is a novel positive modulator of autophagy and stabilizes cellular protein homeostasis. [Cell Mol Life Sci. 78 \(2\): 645-60.](#)
49. Stoneham, C.A. *et al.* (2021) A combined EM and proteomic analysis places HIV-1 Vpu at the crossroads of retromer and ESCRT complexes: PTPN23 is a Vpu-cofactor. [PLoS Pathog. 17 \(11\): e1009409.](#)
50. Yoshimura, A. *et al.* (2021) Branched Actin Maintains Acetylated Microtubule Network in the Early Secretory Pathway [Cells. 11 \(1\): 15.](#)
51. Bracci, N. *et al.* (2022) Rift Valley fever virus Gn V5-epitope tagged virus enables identification of UBR4 as a Gn interacting protein that facilitates Rift Valley fever virus production. [Virology. 567: 65-76.](#)
52. Zhang, J. *et al.* (2022) SARS-CoV-2 triggers Golgi fragmentation via down-regulation of GRASP55 to facilitate viral trafficking [Preprint] [bioRxiv 09 Mar \[Epub ahead of print\].](#)
53. Hertel, A. *et al.* (2022) USP32-regulated LAMTOR1 ubiquitination impacts mTORC1 activation and autophagy induction. [Cell Rep. 41 \(10\): 111653.](#)
54. Park, D. *et al.* (2023) Synaptic vesicle proteins and ATG9A self-organize in distinct vesicle phases within synapsin condensates. [Nat Commun. 14 \(1\): 455.](#)
55. Wang, J. *et al.* (2023) The clathrin adaptor complex-1 and Rab12 regulate post-Golgi trafficking of wild-type epidermal growth factor receptor (EGFR). [J Biol Chem. : 102979.](#)
56. Nishino, M. *et al.* (2023) Histone methyltransferase SUV39H1 regulates the Golgi complex via the nuclear envelope-spanning LINC complex. [PLoS One. 18 \(7\): e0283490.](#)
57. Hao, H. *et al.* (2020) Golgi-associated microtubules are fast cargo tracks and required for persistent cell migration. [EMBO Rep. 21 \(3\): e48385.](#)
58. Fujimoto, T. *et al.* (2018) Parkinson's disease-associated mutant LRRK2 phosphorylates Rab7L1 and modifies trans-Golgi morphology. [Biochem Biophys Res Commun. 495 \(2\): 1708-15.](#)
59. Venditti, R. *et al.* (2019) Molecular determinants of ER-Golgi contacts identified through a new FRET-FLIM system. [J Cell Biol. 218 \(3\): 1055-65.](#)
60. Lopes-da-Silva, M. *et al.* (2019) A GBF1-Dependent Mechanism for Environmentally Responsive Regulation of ER-Golgi Transport. [Dev Cell. 49 \(5\): 786-801.e6.](#)
61. Wakana, Y. *et al.* (2021) The ER cholesterol sensor SCAP promotes CARTS biogenesis at ER-Golgi membrane contact sites. [J Cell Biol. 220 \(1\): e202002150.](#)
62. Hieda, M. *et al.* (2021) The SUN2-nesprin-2 LINC complex and KIF20A function in the Golgi dispersal. [Sci Rep. 11 \(1\): 5358.](#)
63. Barbosa, N.S. *et al.* (2018) ESCRT machinery components are required for Orthobunyavirus particle production in Golgi compartments. [PLoS Pathog. 14 \(5\): e1007047.](#)
64. Afram, E. *et al.* (2023) The  $\eta$ -secretase-derived APP fragment  $\eta$ CTF is localized in Golgi, endosomes and extracellular vesicles and contributes to A $\beta$  production. [Cell Mol Life Sci. 80 \(4\): 97.](#)
65. van der Beek, J. *et al.* (2024) Loss of the HOPS complex disrupts early-to-late endosome transition, impairs endosomal recycling and induces accumulation of amphisomes. [Mol Biol Cell. : mbcE23080328 \[Epub ahead of print\]](#)
66. Wirth, M. *et al.* (2021) Phosphorylation of the LIR Domain of SCOC Modulates ATG8 Binding Affinity and Specificity. [J Mol Biol. 433 \(13\): 166987.](#)
67. Hecht, T.K. *et al.* (2020) Fam20C regulates protein secretion by Cab45 phosphorylation. [J Cell Biol. 219 \(6\): e201910089.](#)

68. Jermusyk, A. *et al.* (2021) A 584 bp deletion in CTRB2 inhibits chymotrypsin B2 activity and secretion and confers risk of pancreatic cancer. [Am J Hum Genet. 108 \(10\): 1852-65.](#)
69. Lujan, P. *et al.* (2024) Sorting of secretory proteins at the trans-Golgi network by human TGN46. [Elife. 12: RP91708.](#)
70. Concha, J.O. *et al.* (2024) Rab27a GTPase and its effector Myosin Va are host factors required for efficient Oropouche virus cell egress. [PLoS Pathog. 20 \(8\): e1012504.](#)

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**Further Reading** 1. Ponnambalam, S. *et al.* (1996) Primate homologues of rat TGN38: primary structure, expression and functional implications. [J Cell Sci. 109 \( Pt 3\): 675-85.](#)

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**Storage** This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10048 available at: <https://www.bio-rad-antibodies.com/SDS/AHP500G>  
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**Regulatory** For research purposes only

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## Related Products

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