

DESCRIPTION

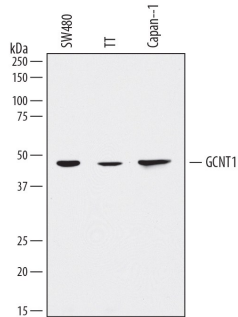
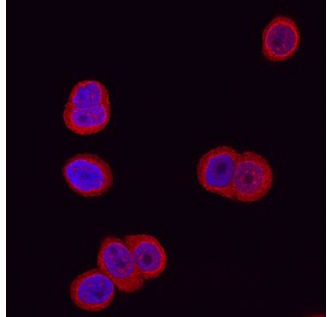
Species Reactivity	Human
Specificity	Detects human Glucosaminyl (N-acetyl) Transferase 1/GCNT1 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Glucosaminyl (N-acetyl) Transferase 1/GCNT1 Arg33-His428 Accession # NP_001481
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below

DATA

<p>Western Blot</p>  <p>Detection of Human Glucosaminyl (N-acetyl) Transferase 1/GCNT1 by Western Blot. Western blot shows lysates of SW480 human colorectal adenocarcinoma cell line, TT human medullary thyroid cancer cell line, and Capan-1 human pancreatic adenocarcinoma cell line. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human Glucosaminyl (N-acetyl) Transferase 1/GCNT1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7248) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Glucosaminyl (N-acetyl) Transferase 1/GCNT1 at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunocytochemistry</p>  <p>Glucosaminyl (N-acetyl) Transferase 1/GCNT1 in HT-29 human cell line. Glucosaminyl (N-acetyl) Transferase 1/GCNT1 was detected in immersion fixed HT-29 human colon adenocarcinoma cell line using Sheep Anti-Human Glucosaminyl (N-acetyl) Transferase 1/GCNT1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7248) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to plasma membrane and cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>
--	--

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Mucin-type O-glycans are initiated with an O-GalNAc attachment to a serine or threonine in a polypeptide. The O-GalNAc residues are subsequently extended by various glycosyltransferases resulting in different types of O-glycans. Most O-glycans contain the core 1 structure, Galβ1-3GalNAc. Glucosaminyl (N-acetyl) Transferase 1 (GCNT1) converts the core 1 O-glycan to core 2 O-glycan, Galβ1-3(GlcNAcβ1-6)GalNAc, via the addition of a GlcNAc residue (1, 2). Various ligand carbohydrates can be formed from core 2 branched oligosaccharides. For example, sialyl Le^x in mucin-type glycoproteins of blood cells can be formed from core 2 branched oligosaccharides (3, 4). The expression of GCNT1 was found to be associated with the progression of various types of cancer (5, 6, 7). The enzymatic activity of the recombinant GCNT1 is measured using a phosphatase-coupled method (8).

References:

1. Bierhuizen, M.F. (1993) *Genes & Development* **7**:468.
2. Yeh, J.C. *et al.* (1999) *J. Biol. Chem.* **274**:3215.
3. Hemmerich, S. *et al.* (1995) *J. Biol. Chem.* **270**:12035.
4. Wilkins, P.P. *et al.* (1996) *J. Biol. Chem.* **270**:18732.
5. Shimodaira, K. *et al.* (1997) *Cancer Res.* **57**: 5201.
6. Hatakyama, S. *et al.* (2010) *Int. J. Cancer* **127**:1052.
7. St Hill, C.A. *et al.* (2009) *BMC Cancer* **9**:79.
8. Wu, Z.L. *et al.* (2011) *Glycobiology* **21**:727.