

## DESCRIPTION

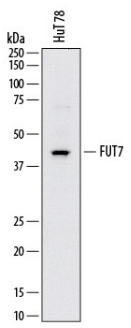
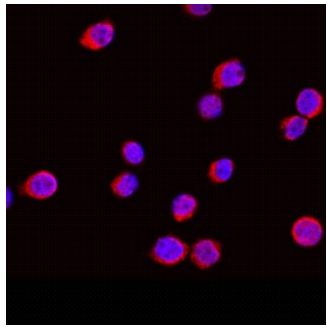
|                           |   |
|---------------------------|---|
| <b>Species Reactivity</b> | Human   |
| <b>Specificity</b>        | Detects human Fucosyltransferase 7/FUT7 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human Fucosyltransferase 5 is observed.              |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2A</sub> Clone # 795116   |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant  |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant human Fucosyltransferase 7/FUT7<br>Ala36-Ala342<br>Accession # Q11130   |
| <b>Formulation</b>        | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*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    |
|----------------------------|---------------------------|-----------|
| <b>Western Blot</b>        | 2 µg/mL                   | See Below |
| <b>Immunocytochemistry</b> | 8-25 µg/mL                | See Below |

## DATA

|   |  |
|---|--|
| <p><b>Western Blot</b></p>  <p><b>Detection of Human Fucosyltransferase 7/FUT7 by Western Blot.</b> Western blot shows lysates of HuT 78 human cutaneous T cell lymphoma cell line. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human Fucosyltransferase 7/FUT7 Monoclonal Antibody (Catalog # MAB64091) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Fucosyltransferase 7/FUT7 at approximately 45 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p> | <p><b>Immunocytochemistry</b></p>  <p><b>Fucosyltransferase 7/FUT7 in HL-60 Human Cell Line.</b> Fucosyltransferase 7/FUT7 was detected in immersion fixed HL-60 human acute promyelocytic leukemia cell line using Mouse Anti-Human Fucosyltransferase 7/FUT7 Monoclonal Antibody (Catalog # MAB64091) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the Northern-Lights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for <a href="#">Fluorescent ICC Staining of Non-adherent Cells</a>.</p> |
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## PREPARATION AND STORAGE

|                                |   |
|--------------------------------|---|
| <b>Reconstitution</b>          | Sterile PBS to a final concentration of 0.5 mg/mL.  |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C  |
| <b>Stability &amp; Storage</b> | <p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

## BACKGROUND

N-glycans, O-glycans and glycolipids are frequently fucosylated at terminal sites. Therefore, fucose is often part of a sugar epitope with important biological function. Well known fucose containing glycans include Lewis and ABO blood group antigens. Lewis epitopes are key elements involved in the leukocyte homing and extravasation process and thus are important for lymphocyte maturation and natural defense functions. Fucose-containing glycans also play critical roles in cell signaling and development (1). More than 10 fucosyltransferases have been cloned (2). FUT1 and FUT2 are  $\alpha$ 1-2 fucosyltransferases and are responsible for ABO blood-group antigen synthesis. FUT8 is an  $\alpha$ 1-6 fucosyltransferase that adds a fucose to the chitobiose core of N-glycans (3). FUT3, FUT4, FUT5, FUT6, FUT7 and FUT9 are  $\alpha$ 1-3 or  $\alpha$ 1-4 fucosyltransferases and are responsible for Lewis antigen generation. FUT7 plays an exclusive role for the biosynthesis of sialyl Lewis X epitope (NeuAc $\alpha$ 2,3Gal $\beta$ 1,4[Fuc $\alpha$ 1,3]GlcNAc) that serves as a ligand in the E-selectin and P-selectin mediated adhesion of leukocytes to activated endothelium or platelets (4, 5, 6). Expression of FUT7 is increased by hypoxia in human colon cancer cell lines (7). Within aa 36-342, human FUT7 shares 84% aa sequence identity with mouse and rat FUT7.

## References:

1. Jafar-Nejad, H. *et al.* (2010) *Glycobiology* **20**:931.
2. Becker, D.J. *et al.* (2003) *Glycobiology* **13**:41R.
3. Lee, S.H. *et al.* (2006) *J. Biochem.* **139**:391.
4. Blander, J. M. *et al.* (1999) *J. Immunol.* **163**:3746.
5. Natsuka, S. *et al.* (1994) *J. Biol. Chem.* **269**:16789.
6. Sasaki, K. *et al.* (1994) *J. Biol. Chem.* **269**:14730.
7. Koike, T. *et al.* (2004) *P.N.A.S.* **101**:8132.