**DESCRIPTION**

**Species Reactivity**  Human

**Specificity**  Detects human β-1,4-Galactosyltransferase 1/B4GalT1 in direct ELISAs and Western blots.

**Source**  Monoclonal Mouse IgG2B Clone # 394706

**Purification**  Protein A or G purified from hybridoma culture supernatant

**Immunogen**  Mouse myeloma cell line NS0-derived recombinant human β-1,4-Galactosyltransferase 1/B4GalT1 long isoform Gly44-Ser398

Accession # P15291

**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 either lyophilized or 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.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
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</thead>
<tbody>
<tr>
<td>Western Blot</td>
<td>1 μg/mL Recombinant Human [βGalT1/β-1,4-Galactosyltransferase 1 (Catalog # 3609-GT)]</td>
</tr>
<tr>
<td>Immunoprecipitation</td>
<td>25 μg/mL Conditioned cell culture medium spiked with Recombinant Human [βGalT1/β-1,4-Galactosyltransferase 1 (Catalog # 3609-GT)], see our available Western blot detection antibodies</td>
</tr>
</tbody>
</table>

**PREPARATION AND STORAGE**

**Reconstitution**  Reconstitute at 0.5 mg/mL in sterile PBS.

**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.

- 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**

β4GalT1 is one of seven β1,4 galactosyltransferases that transfer galactose in a β1,4 linkage to acceptor sugars including GlcNAc, and Glc, and Xyl. By sequence similarity, the β4GalTs form four groups: β4GalT1 and β4GalT2, β4GalT3 and β4GalT4, β4GalT5 and β4GalT6, and β4GalT7 (1). β4GalT1 is unique among the seven enzymes because it can be expressed either as membrane associated form or secreted form (2). The secreted form is restricted to lactating mammary tissues where the enzyme forms a heterodimer with α-lactalbumin to catalyze the synthesis of lactose (3). The membrane form can reside either in the Golgi apparatus, where it adds galactose to N-acetylglucosamine residues, or on cell surface, where it functions as a recognition molecule during a variety of cell to cell and cell to matrix interactions, by binding to specific oligosaccharide ligands on opposing cells or in the extracellular matrix (4). The two enzymatic forms result from alternate transcription initiation sites and post-translational processing (5). Defects in β4GalT1 are the cause of congenital disorder of glycosylation type 2D (CDG2D) (6). The amino acid sequence of human B4GALT1 is 88%, 87% and 71% identical to that of rat, mouse/canine and chicken.

**References:**