

## N-Acetylglucosaminyltransferase1 (MGAT1)

### Product Information

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Cat#</b>                     | DIA-776                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Descriptions</b>             | N-Acetylglucosaminyltransferase1 (MGAT1), namely GnT-I, transfers the first N-acetylglucosamine to the $\alpha$ -1,3 mannose residue of high-mannose N-glycans, and represents the indispensable initiating enzyme for hybrid and complex N-glycan biosynthesis.                                                                                                                                                                                                  |
| <b>Applications</b>             | N-Acetylglucosaminyltransferase1 (MGAT1) serves as an essential tool for hybrid and complex N-glycan detection kits and glycosylation pathway assay reagent development.                                                                                                                                                                                                                                                                                          |
| <b>CAS No.</b>                  | 24-1-1019                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Enzyme Commission Number</b> | EC 2.4.1.101                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Enzyme Source</b>            | Trichoplusia ni, High Five (baculovirus)-derived human N-Acetylglucosaminyltrans.                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Reaction</b>                 | N4- (alpha-D-Man- (1->3)-[alpha-D-Man- (1->3)-[alpha-D-Man- (1->6)]-alpha-D-Man- (1->6)]-beta-D-Man- (1->4)-beta-D-GlcNAc- (1->4)-beta-D-GlcNAc)-L-asparaginy-[protein] (N-glycan mannose isomer 5A1, 2) + UDP-N-acetyl-alpha-D-glucosamine = H <sup>+</sup> + N4-{beta-D-GlcNAc- (1->2)-alpha-D-Man- (1->3)-[alpha-D-Man- (1->3)-[alpha-D-Man- (1->6)]-alpha-D-Man- (1->6)]-beta-D-Man- (1->4)-beta-D-GlcNAc- (1->4)-beta-D-GlcNAc}-L-asparaginy-[protein] + UDP |
| <b>Activity Definition</b>      | Measured by its ability to transfer N-Acetyl-D-Glucosamine from UDP-GlcNAc to alpha 1-3, alpha 1-6-Mannotriose.                                                                                                                                                                                                                                                                                                                                                   |