During N-linked glycosylation of proteins, oligosaccharide chains are assembled on the carrier molecule dolichyl pyrophosphate in the following order: 2 molecules of N-acetylglucosamine, 9 molecules of mannose, and 3 molecules of glucose. These 14-residue oligosaccharide cores are then transferred to asparagine residues on nascent polypeptide chains in the endoplasmic reticulum. As proteins progress through the Golgi apparatus, the oligosaccharide cores are modified by trimming and extension to generate a diverse array of glycosylated proteins.Alg2p is a mannosyltransferase that catalyzes the addition of both the second and third mannose moieties to the growing oligosaccharide chain during lipid-linked oligosaccharidebiosynthesis. The second mannose is added via an alpha-1,3 linkage, while the third mannose is added via an alpha-1,6 linkage. Yeast alg2 mutants exhibit temperature-sensitive growth and accumulate oligosaccharide chains with one or two mannose residues. Alg2p and Alg11p each form independent complexes with Alg1p, but not with each other, on the cytosolic side of the endoplasmic reticulum. The human homolog, hALG2, is an alpha 1,3 mannosyltransferase that adds the second mannose to the chainand is capable of complementing the yeast alg2-1 mutation. Human ALG2 is mutated in the congenital disorder of glycosylation CDG-Ii. Note: there is an unrelated human gene also known as ALG2, for apoptosis-linked gene 2. The Rhizomucor pusillus ALG2 homolog also complements alg2-1 and has been identified as either an alpha 1,3 or alpha 1,6 mannosyltransferase.