The biogenesis of peroxisomes requires a group of protein factors referred to as peroxins which are encoded by the PEX genes. Peroxisomal proteins are synthesized on free polyribosomes and imported posttranslationally. The transport of peroxisomal matrix proteins from the cytoplasm to the peroxisome is mediated by two peroxisome-targeting signal sequences. Peroxisomal membrane proteinsare imported independently of the matrix proteins by a distinct mechanism mediated by the membrane PTS signal.Pex13p, Pex14p, and Pex17p form a docking complex that is required for PTS1 and PTS2 peroxisomal matrix proteins to associate with the peroxisomal membrane prior to import into the peroxisomal matrix. Although Pex13p and Pex14p interact with both Pex5pand Pex7p, Pex14p may be the initial docking site. All members of the docking complex are localized to the cytosolic face of the peroxisomal membrane. Pex13 is an integral membrane protein with its amino and carboxy termini exposed to the cytoplasm, while Pex14 and Pex17 are peripheral membrane proteins. Therefore, interactions between the docking complex and the translocation complex comprised of Pex2p, Pex10p, and Pex12p may enable communication between both sides of the peroxisomal membrane.Multiple interactions occur among the proteins of the docking complex. Pex14p interacts with Pex13p, an interaction that may be mediated by Pex5p. Pex14p also interacts with Pex17p, even in the absence of Pex13p. Biochemical purification of the docking complex indicates that only 10% of Pex13p is located there, suggesting Pex13p may have additional functions.Of the three proteins, Pex13p and Pex14 are widely conserved but Pex17p has only been identified in ascomycetes such as S. cerevisiae and C. albicans. Mutations in the human Pex13 and Pex14 have been associated with the peroxisomal biogenesis disorders neonatal adrenoleukodystrophy and Zellweger syndrome.