Dolichols are a class of polyisoprenoid alcohols with five or more isoprene units in which the C2-C3 bond is saturated. In yeast, dolichols with 14-18 isoprene units are the carrier molecules on which many of the steps in N-linked glycosylation, O-linked glycosylation, and GPI anchor synthesis occur on the membrane of the endoplasmic reticulum. In mammals, dolichols with 19-22 isoprene units are the carrier molecules on which these steps occur.SRT1 encodes a cis-prenyltransferase that synthesizes the dolichol precursor dehydrodolichyl diphosphate with 19-22 isoprenoid units. It was originally identified as a multicopy suppressor of an rer2 mutant, which lacks a homologous cis-prenyltransferase that synthesizes dolichol precursors with 14-18 isoprene units. At a low frequency, rer2 deletion mutants revert to near-wild-type growth rates and glycosylation levels but make only the longer chain dolichols, which are detectable only in the absence of Rer2p. Unlike Rer2p, which is found primarily in the ER, Srt1p is found on lipid particles. Srt1 mutants grow normally, have normal gylcosylation, and are not sensitive to hygromycin B. Deletion of both SRT1 and RER2 is lethal. Unlike RER2, SRT1 is induced in the stationary phase. Overexpression of Erg20p, which synthesizes the Rer2p substrate farnesyl diphosphate, induces expression of SRT1, RER2, and DPM1.