PDA1 encodes the alpha subunit of pyruvate dehydrogenase. Pyruvate dehydrogenase, consisting of alphaand betasubunits, is the E1 component of the large multienzyme pyruvate dehydrogenase complex. This mitochondrial complex consists of an E2core that binds E1, E3, and Protein Xcomponents. E1, E2, and E3act in concert to convert pyruvate into acetyl-CoA. Cells lacking PDA1 are viable but lack pyruvate dehydrogenase activity, show slower growth on glucose, and exhibit increased formation of petites that lack mitochondrial DNA. The yeast PDA1 gene shows strong similarity to human PDHA1, mutations in which are responsible for most cases of pyruvate dehydrogenase deficiency.