PCA1 encodes a plasma membrane 0015662>P-type ATPase ion pump responsible for the export of toxic cadmium ions. Early studies of Pca1p were complicated by the fact that most laboratory strains, including S288C, contain a G970R nonsense mutation which eliminates normal cadmium transport function. Although initial characterizations described Pca1p as a copper-transporting ATPase, subsequent experiments have demonstrated that Pca1p is capable of high affinity copper ion binding, but not active copper ion transport. It is possible that Pca1p plays a role in yeast copper resistance by chelating and sequestering copper ions. Pca1p is very closely related to the human gene ATP7A, mutations in which cause Menkes diseaseand occipital horn syndrome. Menkes disease is associated with defective copper metabolism.