

The 16th Aline U. and James M. Orten Memorial Lecture



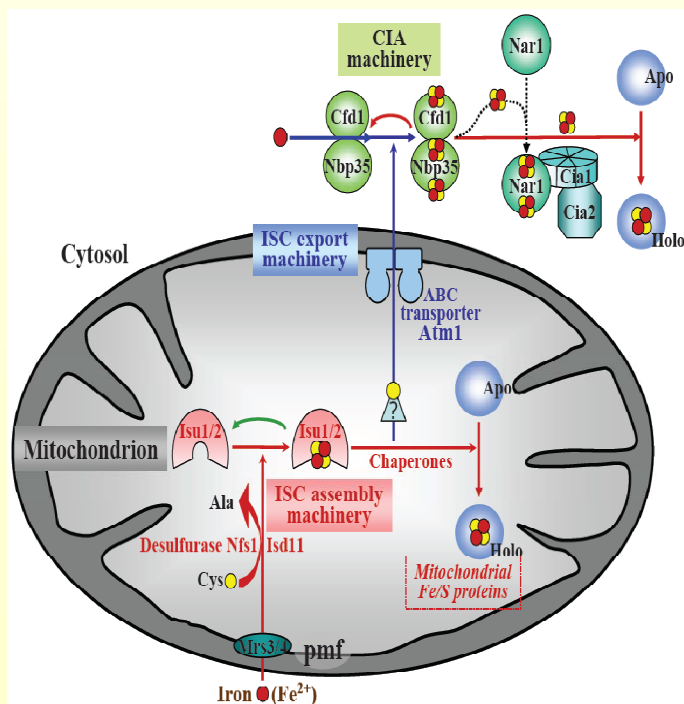
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Biogenesis of iron-sulfur proteins in eukaryotes

Over the past 14 years, Dr. Lill has identified many of the known factors of Fe/S protein biogenesis, and we have contributed to the understanding of the underlying molecular mechanisms of cluster assembly by combining *in vivo* and *in vitro* biochemical and cell biological approaches (see Figure and Reviews). He confirmed that mitochondria play a crucial role in this pathway being involved in the maturation of all cellular Fe/S proteins, thus becoming indispensable for a living eukaryotic cell. Biogenesis is accomplished by three complex proteinaceous machineries. Mitochondrial Fe/S proteins require the *iron-sulfur cluster (ISC) assembly machinery* which was inherited by endosymbiosis of bacteria during evolution. Cytosolic and nuclear Fe/S proteins are assembled with the help of the *cytosolic iron-sulfur protein assembly (CIA) machinery*. This process additionally involves the function of the mitochondrial ISC assembly machinery which contributes an unknown compound exported to the cytosol by the mitochondrial *ISC export apparatus*.



Tuesday, March 31, 2009
Noon
Room 2268 Scott Hall