

Nar1 Deficiency Results in Shortened Lifespan and Sensitivity to Paraquat that is Rescued by Increased Expression of Mitochondrial Superoxide Dismutase.

*Saccharomyces cerevisiae* Nar1p is an essential Fe/S protein that exhibits striking similarity to bacterial iron-only hydrogenases. Nar1p is required for the maturation of cytosolic and nuclear, but not of mitochondrial Fe/S proteins, and plays a role in modulating sensitivity to oxygen in both yeast and *Caenorhabditis elegans* through unknown mechanisms. Here we report that Nar1 deficiency results in shortened lifespan and sensitivity to paraquat that is rescued by increased expression of mitochondrial superoxide dismutase. These data suggest that Nar1p promotes protection against oxidative stress and define a new role for Nar1p in promoting replicative lifespan.