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1: [Food Chem Toxicol.](#) 2009 Aug; 47(8):2124-8. Epub 2009 Jun 13.

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Palladium alpha-lipoic acid complex formulation enhances activities of Krebs cycle dehydrogenases and respiratory complexes I-IV in the heart of aged rats.

[Sudheesh NP](#), [Ajith TA](#), [Janardhanan KK](#), [Krishnan CV](#).

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Age-related decline in the capacity to withstand stress, such as ischemia and reperfusion, results in congestive heart failure. Though the mechanisms underlying cardiac decay are not clear, age dependent somatic damages to mitochondrial DNA (mtDNA), loss of mitochondrial function, and a resultant increase in oxidative stress in heart muscle cells may be responsible for the increased risk for cardiovascular diseases. The effect of a safe nutritional supplement, POLY-MVA, containing the active ingredient palladium alpha-lipoic acid complex, was evaluated on the activities of the Krebs cycle enzymes such as isocitrate dehydrogenase, alpha-ketoglutarate dehydrogenase, succinate dehydrogenase, and malate dehydrogenase as well as mitochondrial complexes I, II, III, and IV in heart mitochondria of aged male albino rats of Wistar strain. Administration of 0.05 ml/kg of POLY-MVA (which is equivalent to 0.38 mg complexed alpha-lipoic acid/kg, p.o), once daily for 30 days, was significantly (p<0.05) effective to enhance the Krebs cycle dehydrogenases, and mitochondrial electron transport chain complexes. The unique electronic and redox properties of palladium alpha-lipoic acid complex appear to be a key to this physiological effectiveness. The results strongly suggest that this formulation might be effective to protect the aging associated risk of cardiovascular and neurodegenerative diseases.

PMID: 19500641 [PubMed - in process]

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