

# Download Free Radicals In Biological Medicine

Background. The free radical theory of aging was conceived by Denham Harman in the 1950s, when prevailing scientific opinion held that free radicals were too unstable to exist in biological systems. This was also before anyone invoked free radicals as a cause of degenerative diseases. Two sources inspired Harman: 1) the rate of living theory, which holds that lifespan is an inverse function of ...In chemistry, a radical is an atom, molecule, or ion that has an unpaired valence electron. With some exceptions, these unpaired electrons make radicals highly chemically reactive. Many radicals spontaneously dimerize. Most organic radicals have short lifetimes. SOD enzymes accelerate this reaction in biological systems by about four orders of magnitude. It should be noted that SOD enzymes work in conjunction with H<sub>2</sub>O<sub>2</sub>-removing enzymes, such as catalases and glutathione peroxidases .. The generation of various free radicals is closely linked with the participation of redox-active metals . The redox state of the cell is largely linked to an iron (and ...OH + LH => .L + H<sub>2</sub>O. These lipid radicals can then react directly with oxygen (autoxidation) in a self-propagating chain reaction forming lipid peroxides (lipid peroxy radicals, lipid molecules containing paired-oxygen groups ??OO??): .L + O<sub>2</sub> => LOO. LOO.