

# Iron Release from the Active Site of Lipoxygenase

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In the course of the lipoxygenase-catalyzed transformation of linoleic acid to 13*S*-hydroperoxy-9*Z*,11*E*-octadecadienoic acid, iron ions are liberated. This iron release has been determined using a spectrophotometric assay based on the complexation of ferrous iron by 3-(2-pyridyl)-5,6-bis-(4-phenylsulfonic acid)-1,2,4-triazine disodium salt (ferrozine). Further comparative measurements demonstrated that iron release correlates to deficient oxygen supply. We speculate that release of iron ions is caused by modifications of histidine residues located at the active site of the enzyme. Liberation of iron ions may be responsible for increased generation of lipid peroxidation (LPO) products observed after a myocardial infarction since iron ions induce nonenzymic LPO processes.