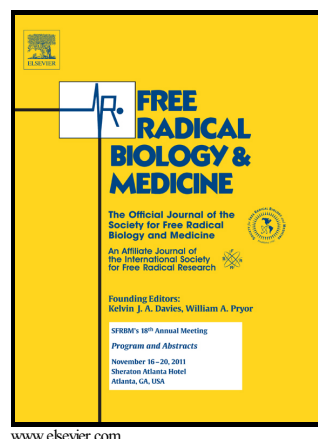


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Interaction of singlet oxygen with bovine serum albumin and the role of the protein nano-compartmentalization

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Abstract

Singlet molecular oxygen (¹O₂) contributes to protein damage triggering biophysical and biochemical changes that can be related with aging and oxidative stress. Serum albumins, such as bovine serum albumin (BSA), are abundant proteins in blood plasma with different biological functions. This paper presents a kinetic and spectroscopic study of the ¹O₂-mediated oxidation of BSA using the tris(2,2'-bipyridine)ruthenium(II)

Abbreviations: AA, amino acid residue; ADPA, anthracene-9,10-dipropionic acid disodium salt; BSA, bovine serum albumin; ¹O₂, singlet molecular oxygen; DAS, decay associated spectra; DOPA, dihydroxyphenylalanine; HSA, human serum albumin; MLCT, metal-to-ligand charge-transfer; ROS, reactive oxygen species; SA, serum albumins; [Ru(bpy)₃]²⁺, tris(2,2'-bipyridine) ruthenium(II) cation;

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