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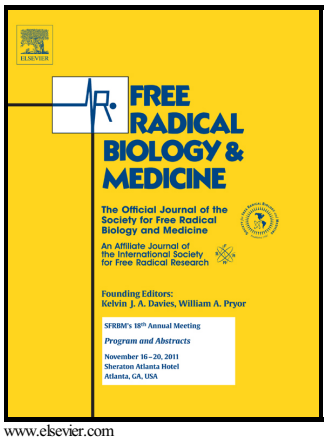


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# Photoaging of retinal pigment epithelial melanosomes: the effect of photobleaching on morphology and reactivity of the pigment granules

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**Abbreviations**

AFM, atomic force microscopy; DLS, dynamic light scattering;
EPR, electron paramagnetic resonance; MB, methylene blue; Mel, untreated melanosomes; OxM, photooxidized melanosomes with free radical content increased by 60% in comparison to untreated melanosomes; PM, photobleached melanosomes; PM-20; PM-50, photobleached melanosomes with free radical content reduced by 20% or 50% respectively



## Abstract

To elucidate the mechanism of age-related changes in antioxidant and photoprotective properties of human retinal pigment epithelium (RPE) melanosomes, the effect of *in vitro* photoaging of bovine RPE melanosomes was examined employing an array of complementary spectroscopic and analytical methods. Electron paramagnetic resonance (EPR) spectroscopy, saturation recovery EPR, atomic force microscopy (AFM) and dynamic light scattering (DLS) were used to determine melanin content of control and photobleached melanosomes, and to monitor changes in their