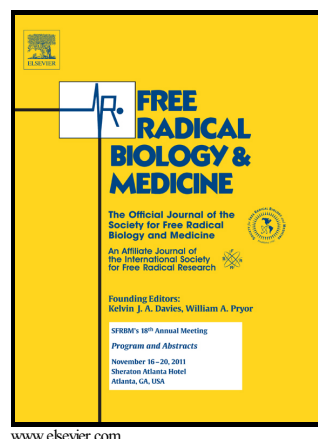


## Author's Accepted Manuscript

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Andrzej Zadło, Grzegorz Szewczyk, Michał Sarna, Anna Kozinska, Anna Pilat, Patrycja Kaczara, Tadeusz Sarna



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ACCEPTED MANUSCRIPT

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

Andrzej Zadło, Grzegorz Szewczyk, Michał Sarna<sup>1</sup>, Anna Kozinska, Anna Pilat,  
Patrycja Kaczara and Tadeusz Sarna

Department of Biophysics, Faculty of Biochemistry, Biophysics and Biotechnology, Jagiellonian University, Krakow, Poland

## Corresponding author:

Tadeusz J. Sarna, Professor  
Department of Biophysics  
Faculty of Biochemistry, Biophysics and Biotechnology  
Jagiellonian University  
Gronostajowa 7, 30-387 Krakow, Poland  
Telephone: 48 12 664 64 27  
FAX: 48 12 664 69 02  
E-mail: tadeusz.sarna@uj.edu.pl

## 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

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