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Mini Review

Cationic antioxidants as a powerful tool against mitochondrial oxidative stress

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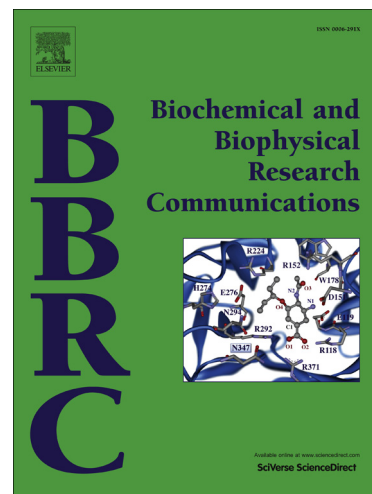
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Cationic antioxidants as a powerful tool against mitochondrial oxidative stress

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Abbreviations: $\Delta\psi$, transmembrane electric potential difference; MitoQ, 10-(6'-ubiquinonyl) decyltriphenylphosphonium; mROS, mitochondrial reactive oxygen species; ROS, reactive oxygen species; SkQs, plastoquinonyl conjugates with penetrating cations; SkQ1, 10-(6'-plastoquinonyl) decyltriphenylphosphonium; SkQR1, 10-(6'-plastoquinonyl) decylrhodamine 19.

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Abstract:

This review describes evidence that mitochondrial reactive oxygen species (mROS) are of great importance under many physiological and pathological conditions. The most demonstrative indications favoring this conclusion originate from recent discoveries of the *in vivo* effects of mitochondria-targeted antioxidants (MitoQ and SkQs). The latter compounds look promising in treating several incurable pathologies as well as aging.

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