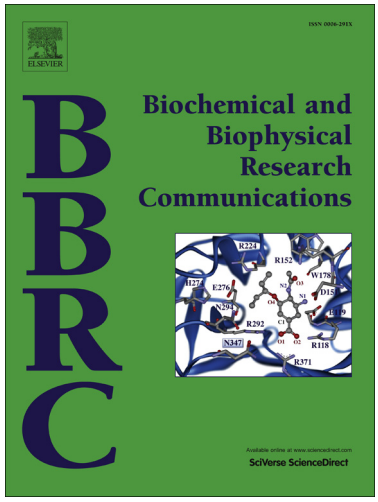

Mini Review

Cationic antioxidants as a powerful tool against mitochondrial oxidative stress

Vladimir Skulachev

PII: S0006-291X(13)01735-X
DOI: http://dx.doi.org/10.1016/j.bbrc.2013.10.063
Reference: YBBRC 31039

To appear in: *Biochemical and Biophysical Research Communications*

Received Date: 10 October 2013

Please cite this article as: V. Skulachev, Cationic antioxidants as a powerful tool against mitochondrial oxidative stress, *Biochemical and Biophysical Research Communications* (2013), doi: http://dx.doi.org/10.1016/j.bbrc.2013.10.063

Cationic antioxidants as a powerful tool against mitochondrial oxidative stress

Vladimir Skulachev

Lomonosov Moscow State University, Belozersky Institute of Physico-Chemical Biology, Moscow, Russia

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.

Fax: +7 (495)939-31-81

E-mail: skulach@belozersky.msu.ru

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.