

ROS production via P2Y1-PKC-NOX2 is triggered by extracellular ATP after electrical stimulation of skeletal muscle cells

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© 2015 Díaz-Vegas et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. During exercise, skeletal muscle produces reactive oxygen species (ROS) via NADPH oxidase (NOX2) while inducing cellular adaptations associated with contractile activity. The signals involved in this mechanism are still a matter of study. ATP is released from skeletal muscle during electrical stimulation and can autocrinely signal through purinergic receptors; we searched for an influence of this signal in ROS production. The aim of this work was to characterize ROS production induced by electrical stimulation and extracellular ATP. ROS production was measured using two alternative probes; chloromethyl-2,7- dichlorodihydrofluorescein diacetate or electroporation to express the hydrogen peroxide-sensitive protein Hyper. Electrical