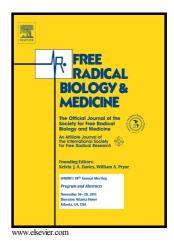
Author's Accepted Manuscript

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 PII:
 S0891-5849(18)30103-5

 DOI:
 https://doi.org/10.1016/j.freeradbiomed.2018.02.038

 Reference:
 FRB13647

To appear in: Free Radical Biology and Medicine

Received date: 1 February 2018 Revised date: 27 February 2018 Accepted date: 28 February 2018

Cite this article as: Ting Gong, Daniel J. Torres, Marla J. Berry and Matthew W. Pitts, Hypothalamic redox balance and leptin signaling - Emerging role of selenoproteins, *Free Radical Biology and Medicine*, https://doi.org/10.1016/j.freeradbiomed.2018.02.038

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Hypothalamic redox balance and leptin signaling - Emerging role of selenoproteins

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Abstract

The hypothalamus is the central neural site governing food intake and energy expenditure. During the past 25 years, understanding of the hypothalamic cell types, hormones, and circuitry involved in the regulation of energy metabolism has dramatically increased. It is now well established that the adipocyte-derived hormone, leptin, acts upon two distinct groups of hypothalamic neurons that comprise opposing arms of the central melanocortin system. These two cell populations are anorexigenic neurons expressing proopiomelanocortin (POMC) and orexigenic neurons that express agouti-related peptide (AGRP). Several important studies have demonstrated that reactive oxygen species and endoplasmic reticulum stress significantly impact these hypothalamic neuronal populations that regulate global energy metabolism. Reactive oxygen species and redox homeostasis are influenced by selenoproteins, an essential Download English Version:

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