## **Supplementary information**

Partial involvement of Nrf2 in skeletal muscle mitohormesis as an adaptive response to mitochondrial uncoupling Verena Coleman<sup>1</sup>, Piangkwan Sa-Nguanmoo<sup>1,4</sup>, Jeannette Koenig<sup>2</sup>, Tim J. Schulz<sup>3</sup>, Tilman Grune<sup>2</sup>, Susanne Klaus<sup>1</sup>, Anna P. Kipp<sup>5</sup>, Mario Ost<sup>1\*</sup> <sup>1</sup>Department of Physiology of Energy Metabolism, German Institute of Human Nutrition Potsdam-Rehbrücke, 14558 Nuthetal, Germany <sup>2</sup>Department of Molecular Toxicology, German Institute of Human Nutrition Potsdam-Rehbrücke, 14558 Nuthetal, Germany <sup>3</sup>Department of Adipocyte Development and Nutrition, German Institute of Human Nutrition Potsdam-Rehbrücke, 14558 Nuthetal, Germany <sup>4</sup>Department of Physiology, Chang Mai University, Chang Mai, Thailand <sup>5</sup>Department Molecular Nutritional Physiology, Friedrich Schiller University Jena, Germany \*Corresponding author: Mario Ost E-mail: Mario.ost@dife.de Mario Ost, PhD Department of Physiology of Energy Metabolism German Institute of Human Nutrition (DIfE), Potsdam-Rehbrücke Arthur-Scheunert-Allee 114-116 14558 Nuthetal (Germany) Tel: +49 33200 88-2430 E-mail: Mario.ost@dife.de



**Figure S1. Phenotypic characterization of male Nrf2-Ko animals.** (A) Body mass development from wks 4 to wks 24 and final body composition of 24 wks old animals on standard diet (n=5-10), (B) Liver and (C) Quadriceps muscle NQO1 activity (n=5-10) (D) relative quadriceps (Quad), interscapular brown adipose tissue (iBAT), epidydimal (eWAT) and subcutaneous white adipose tissue (sWAT) and liver weights and (E) H&E histological staining of Tibiales anterior (TA) muscle, iBAT, sWAT and liver of 24 wks old animals, bars represent 50  $\mu$ m, (F) random fed plasma insulin levels, (G) plasma triacylglycerides, free fatty acids and total cholesterol, (H) plasma FGF21 and GDF15 levels of 24 wks old animals (n=5-10). All absolute values are expressed as box-and-whisker plots, relative or normalized data are expressed as means + SEM; \*\*p<0.001; \*\*\*p<0.001.



**Figure S2. Phenotypic characterization of female TG/Nrf2-Ko animals.** (A) Body mass and body composition, (B) relative quadriceps (Quad) weights, (C) plasma FGF21 and GDF15 levels, (D) H&E histological staining of Tibiales anterior (TA) muscle, interscapular brown adipose tissue (iBAT) and sWAT of 12-14 wks old female animals (n=3-7), bars represent 50  $\mu$ m. All absolute values are expressed as box-and-whisker plots, relative or normalized data are expressed as means + SEM; \*\*\**p*<0.001.