Title: Supplemental Data 1

Description: The list of total proteins identified in muscle fibers and human primary muscle cells.

Title: Supplemental Data 2

Description: Comparison of protein identification by singleshot and MEDFASP protocol in whole

muscle lysate

Title: Supplemental Data 3

Description: Cumulative protein abundance of all proteins in slow and fast muscle fibers.

Title: Supplemental Data 4

**Description:** Pearson correlation (r) between the replicates

Title: Supplemental Data 5

**Description:** The list of significantly different proteins between slow and fast muscle fibers (paired t test) + Enriched categories after Fischer Exact Test + non-imputated LFQ values for quantified proteins

Description: Members of individual organelle/comparement presented in figure 2

Title: Supplemental Data 7

Title: Supplemental Data 6

**Description:** The list of significantly different proteins in slow fibers, fast fibers and whole muscle lysate after exercise (paired t test) + non imputated matrices displaying protein quantification for slow fiber, fast fiber and whole muscle lysate.

Title: Supplemental Data 8

**Description:** Output file of ClueGo enrichment analysis

Title: Supplemental Data 9

**Description:** The list of the proteins adapated to exercise training in fiber type specific manner + list of the proteins which were exclusively quantified in either slow or fast muscle fiber + log2 fold change for significantly different proteins

Title: Supplemental Data 10

**Description:** Members of individual protein categories presented in figure 5

Title: Supplemental Data 11

Description: Fold change, significance score for enzymes from glycolysis, PHD complex and TCA cycle

in slow and fast muscle fibers.