

## **Supplementary material**

### **Supplementary figures**

**Supplementary Figure 1. A & B.** Volcano plots depicting upregulated and downregulated proteins in Donor 1 and Donor 2 CD4<sup>+</sup> T cells in response to activation.

**Supplementary Figure 2** Enriched Biological Processes from proteins downregulated in **A.** Donor 1 and **B.** Donor 2 in response to activation

**Supplementary Figure 3. Protein expression profiles of various protein classes in resting and activated CD4<sup>+</sup> T cells.** Heatmaps depicting intensity-based abundances for differential expressed proteins for A. Adaptive immune response B. Hypoxia markers C. Interleukins D. Other cytokines E. MAP kinases F. Markers of Reactive Oxygen Species (ROS)

**Supplementary Figure 4. Protein expression profiles for metabolic pathways in resting and activated CD4<sup>+</sup> T cells.** Heatmaps depicting intensity-based abundances for differential expressed proteins for A. Glycolysis/Gluconeogenesis B. Amino acid metabolism C. Lipid metabolism D. Oxidative Phosphorylation

**Supplementary Figure 5 Protein expression profiles for cellular processes in resting and activated CD4<sup>+</sup> T cells.** Heatmaps depicting intensity-based abundances for differential expressed proteins for A. Cell cycle markers B. Apoptosis C. Autophagy D. Phagocytosis

## **Supplementary tables**

**Supplementary Table 1.** Proteins identified from Activated and Resting CD4<sup>+</sup> T cells using MaxQuant and significantly changing proteins in Activated and Resting CD4<sup>+</sup> T cells in Donor 1 and 2

**Supplementary Table 2.** Node properties of Cytoscape network generated from protein upregulated in activated primary CD4<sup>+</sup> T cells

**Supplementary Table 3.** Proteins identified from proteomic analysis of SUP-T1 cells

**Supplementary Table 4.** Lists of proteins identified in Resting primary CD4<sup>+</sup> T cells, SUP-T1 and Jurkat cells (Wu *et al.* (2007))

**Supplementary Table 5.** Comparison of current human CD4<sup>+</sup> T-cell proteomics dataset with mouse CD4<sup>+</sup> T cell proteomics data (Howden *et al.*)

**Supplementary Table 6.** Comparison of current CD4<sup>+</sup> T-cell proteomics dataset with previous proteomic studies

**Supplementary Table 7.** Lists of proteins identified from the current study and previous studies on CD4<sup>+</sup> T-cell proteomics