

## Description of Additional Supplementary Files

**File name:** Supplementary Data 1

**Description:** GO process enrichment analysis of shared differentially expressed genes (DEGs) due to the exposure to a KD in uninfected animals (KD vs CD), with those changing because of SARS-CoV-2 infection under CD (CD-SARS-CoV-2 vs CD).

**File name:** Supplementary Data 2

**Description:** Comparison of differentially expressed genes (DEGs) due to the exposure to a KD in uninfected animals (KD vs CD), with those changing because of SARS-CoV-2 infection under CD (CD-SARS-CoV-2 vs CD).

**File name:** Supplementary Data 3

**Description:** Transcriptional regulatory network analysis of RNA-sequencing data (first 500 DEGs ranked according to adjusted significance p value) from mice liver, heart, and kidney, after 7 days from infection with SARS-CoV2, constructed using the TRRUST v2 dataset.

**File name:** Supplementary Data 4

**Description:** Transcriptional changes in animals at the endpoint of our study, i.e. mice infected under KD vs CD (KD-SARS-CoV-2 vs CD-SARS-CoV-2).

**File name:** Supplementary Data 5

**Description:** DEGs in the liver of uninfected mice because of the KD.

**File name:** Supplementary Data 6

**Description:** Network analysis of GO process enrichment in the heart of mice infected under a KD diet.

**File name:** Supplementary Data 7

**Description:** Positive and negative metabolite intra- and inter-organ correlations under CD and KD and during infection with SARS-CoV2.

**File name:** Supplementary Data 8

**Description:** Metabolite abbreviations.

**File name:** Supplementary Data 9

**Description:** Source Data

**File name:** Supplementary Video 1

**Description:** Video of mice infected under chow diet.

**File name:** Supplementary Video 2

**Description:** Video of mice infected under ketogenic diet.