



### Supplementary Fig. 5

The MSigDB Hallmark gene sets “Interferon alpha response” and “Interferon gamma response” show statistically significant, concordant down-regulation between the V3 and V1 sampling times for the vitamin D<sub>2</sub> treatment group in the WE cohort (adjusted p-values 4.22e-02 and 1.61e-04 respectively). a) Leading edge, core genes accounting for the enrichment signals in the gene set enrichment analysis. b) Heatmap showing the log<sub>2</sub> fold change between V3 and V1 for each gene identified in a), for all the treatment groups in both the SA and WE cohorts (P = placebo, D<sub>2</sub> = vitamin D<sub>2</sub>, D<sub>3</sub> = vitamin D<sub>3</sub>). Gene membership of the Hallmark interferon alpha and gamma response gene sets is indicated to the right. Genes shared between both sets are labelled “alpha & gamma”. Gene PARP14 belongs to both sets, but is a leading edge gene only for the alpha response.