

**Supplemental Figure 1:** A) The BMI of patients with FDG-PET/CT scans with a different number of active BAT depots did not differ (P = 0.593, linear regression analysis with depot number as numerical values; P = 0.724, one-way-ANOVA with depot number as categorical values; n = 81). B) Patients with FDG-PET/CT scans with a high number of active BAT depots are of a younger age (P = 0.004, linear regression analysis with depot number as numerical values; P = 0.059, one-way-ANOVA with depot number as categorical values; n = 81). C) The mean number of active depots is not different between male and female patients (P = 0.635, Mann-Whitney test, n = 81).



**Supplemental Figure 2:** Incidence of disease states within the BAT positive case and the BAT negative control group. The absolute number of affected patients is displayed on the x-axis.



**Supplemental Figure 3:** Sex specific brown fat activity index (BFI) on the depot level in the cervical (BFIc), supraclavicular (BFIs), paravertebral (BFIp), mediastinal (BFIm) or subphrenic (BFIsub) BAT depot. Every dot represents one FDG-PET/CT scan. The y-axes are scaled logarithmically to accommodate BFI values varying across three orders of magnitude. We detected no sex difference in any depot or on the total level (Mann-Whitney test and two-sided ttest on log-transformed data).



**Supplemental Figure 4:** Correlation of body mass index (BMI) with total brown fat activity index (BFI, n = 81) and BFI in the cervical (n = 53), supraclavicular (n = 71), paravertebral (n = 69), mediastinal (n = 51) or subphrenic (n = 29) BAT depot. Every dot represents one FDG-PET/CT scan. The y-axes are scaled logarithmically to accomodate BFI values varying across three orders of magnitude. Correlation coefficients *r* and significance *P* are the results of non-parametric Spearman correlation analyses.



**Supplemental Figure 5:** Correlation of age with total brown fat activity index (BFI, n = 81) and BFI in the cervical (n = 53), supraclavicular (n = 71), paravertebral (n = 69), mediastinal (n = 51) or subphrenic (n = 29) BAT depot. Every dot represents one FDG-PET/CT scan. The y-axes are scaled logarithmically to accomodate BFI values varying across three orders of magnitude. Correlation coefficients *r* and significance *P* are the results of non-parametric Spearman correlation analyses.