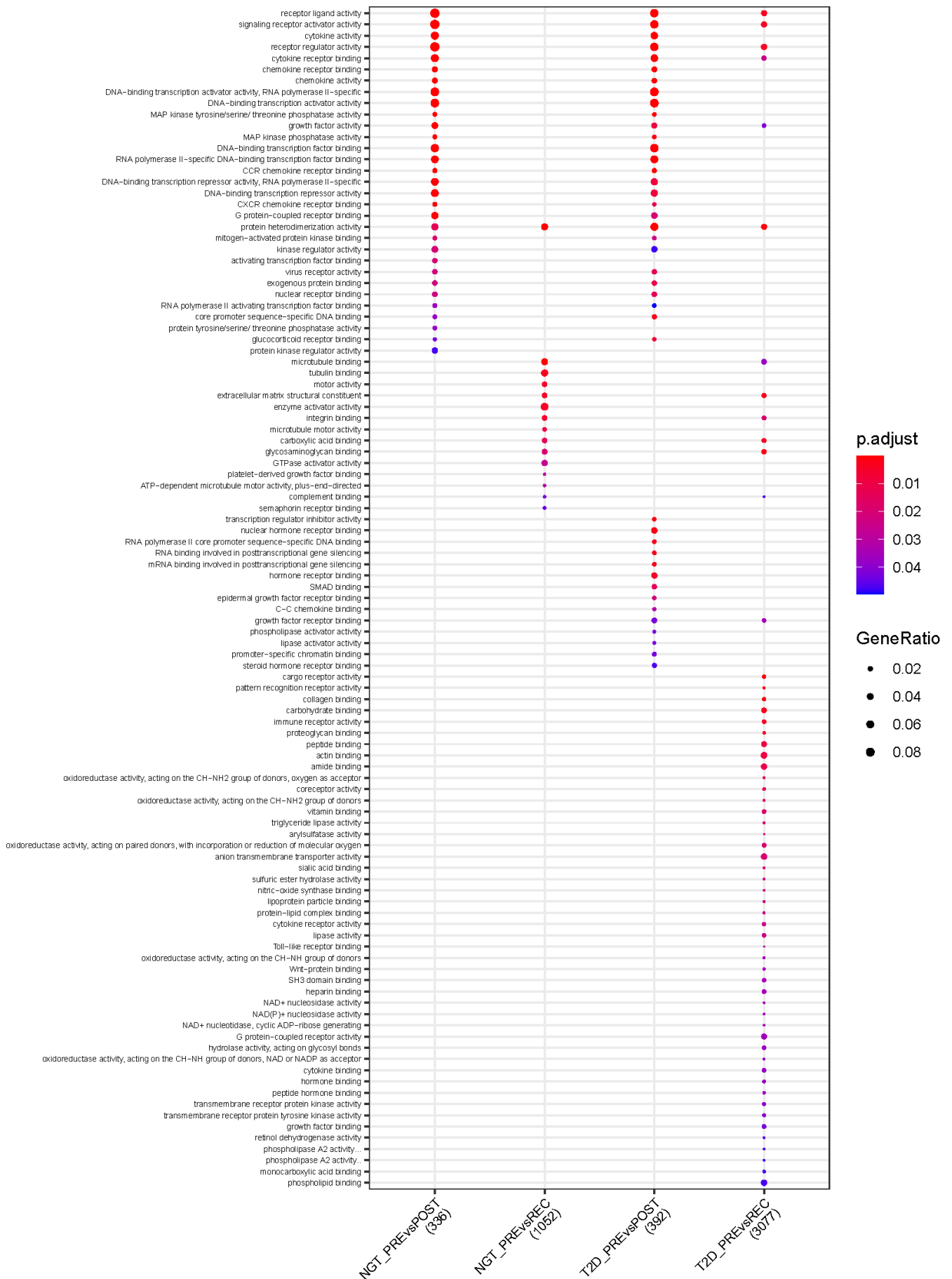


Cell Reports Medicine, Volume 5

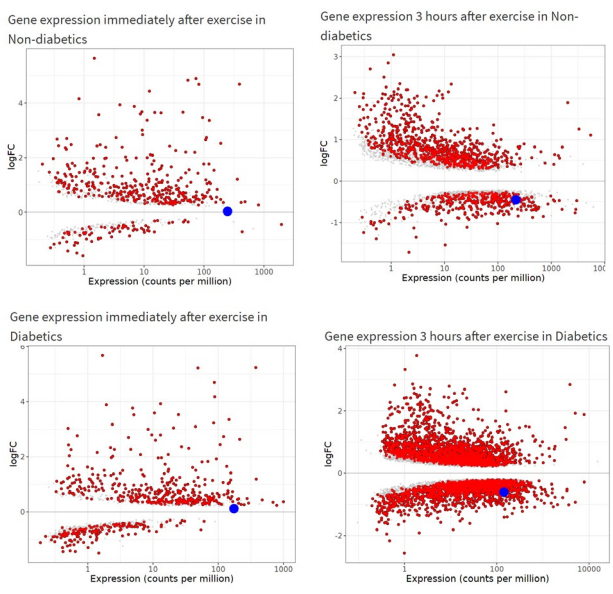
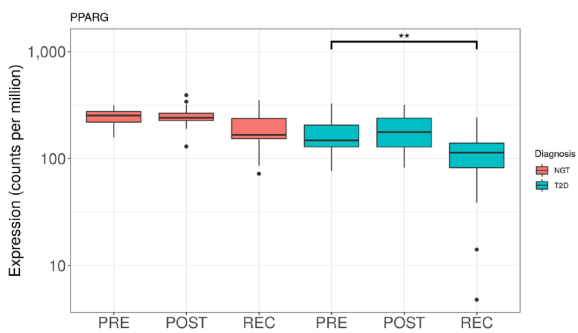
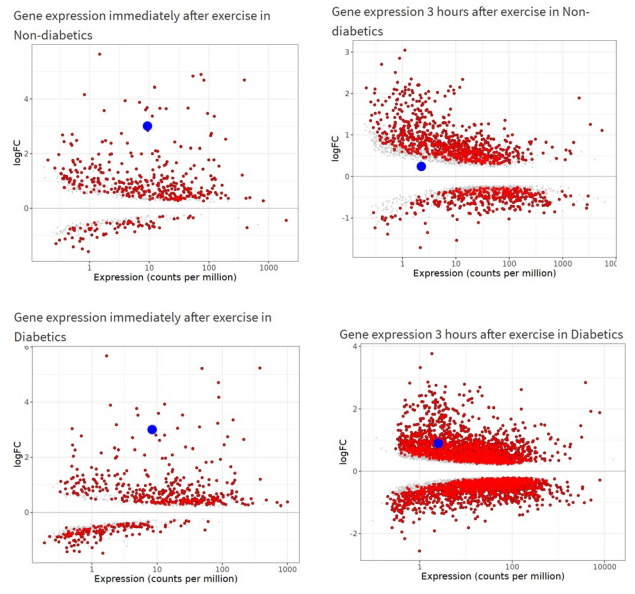
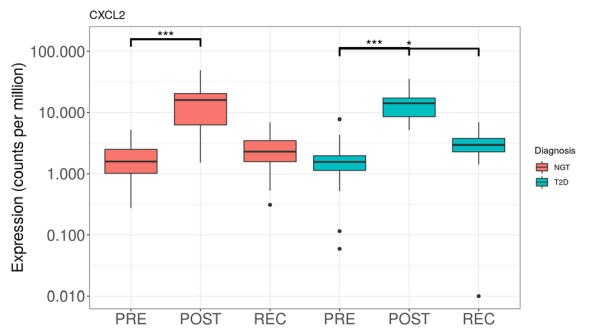
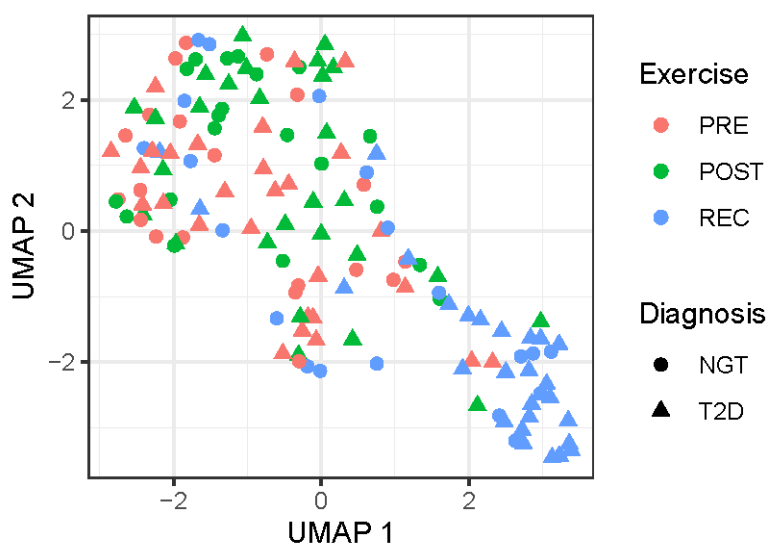
Supplemental information

**Exercise-induced crosstalk
between immune cells and adipocytes
in humans: Role of oncostatin-M**

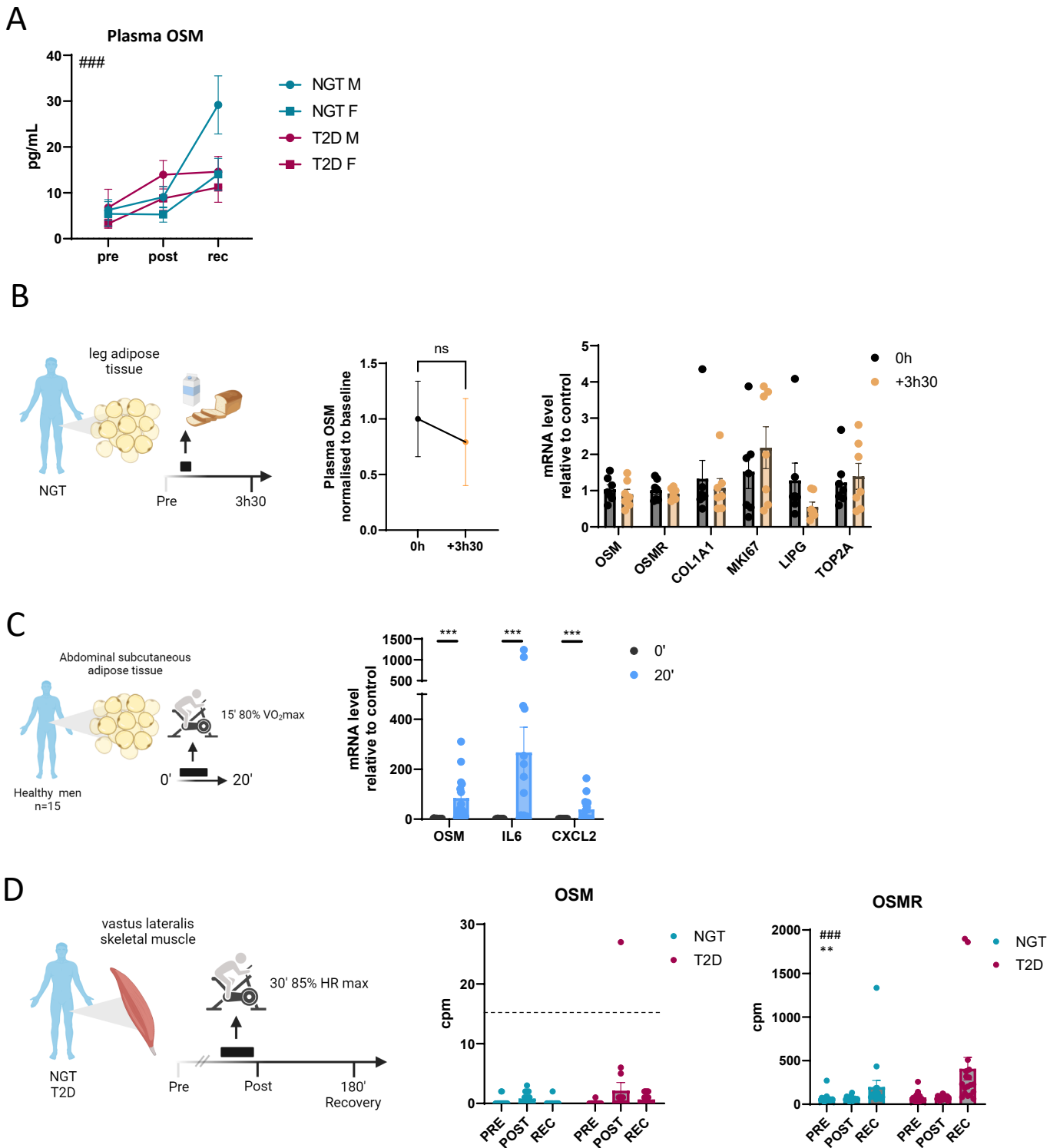
Lucile Dollet, Leonidas S. Lundell, Alexander V. Chibalin, Logan A. Pendergrast, Nicolas J. Pilon, Elizabeth L. Lansbury, Merve Elmastas, Scott Frendo-Cumbo, Jutta Jalkanen, Thais de Castro Barbosa, Daniel T. Cervone, Kenneth Caidahl, Oksana Dmytriyeva, Atul S. Deshmukh, Romain Barrès, Mikael Rydén, Harriet Wallberg-Henriksson, Juleen R. Zierath, and Anna Krook



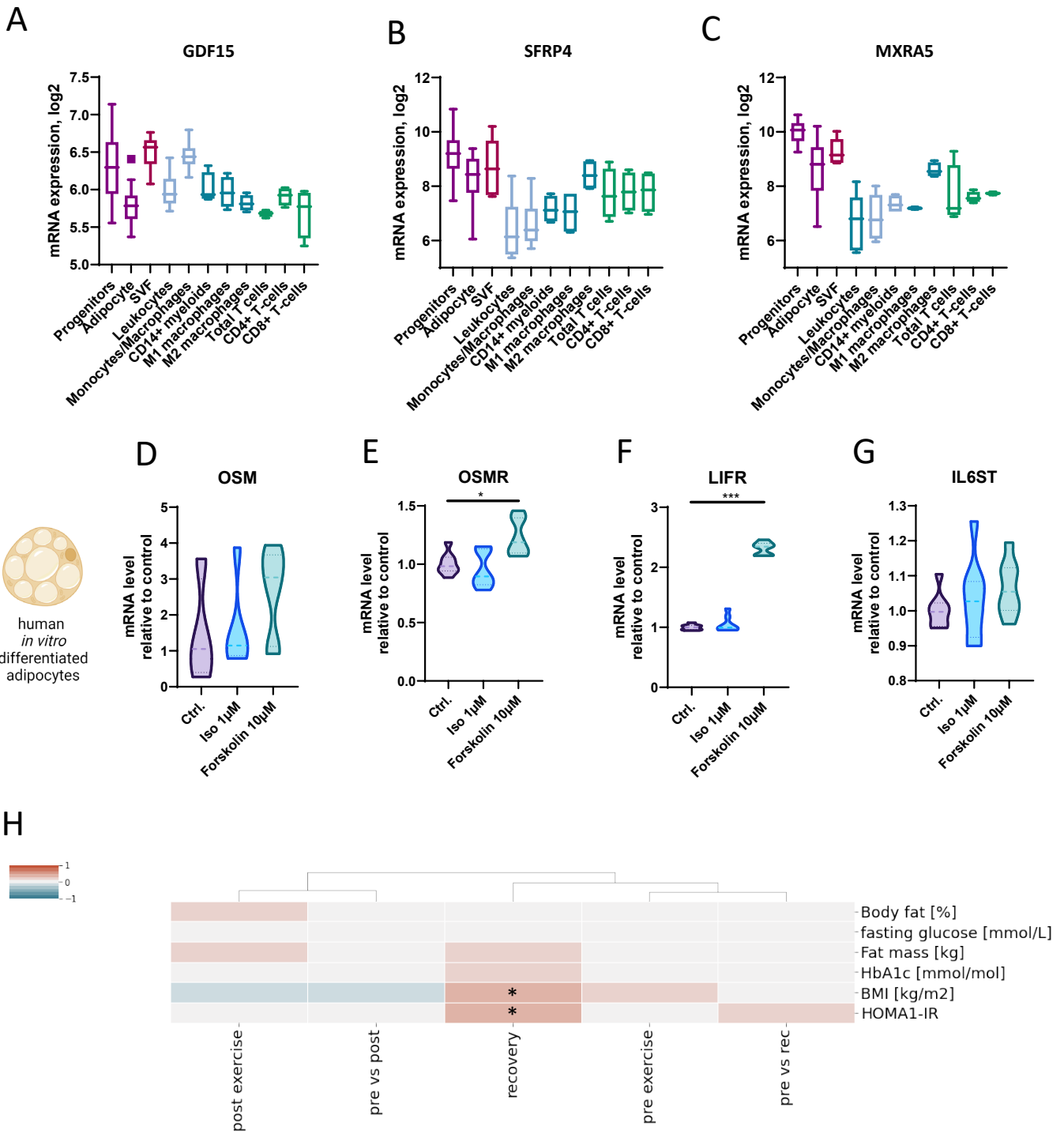
Supplemental Figure 1: Pathway analysis using Gene Ontology showing the effect of exercise in NGT and T2D. Related to Figure 1.

A**B****C**

Supplemental Figure 2: Presentation of selected genes response to exercise using the adipomax shiny app. Graphical representation of PPAR γ (A) and CXCL2 (B) gene expression using online tool. C: Uniform Manifold Approximation of the ciphersort cell deconvolution analysis. Related to Figure 1.



Supplemental Figure 3: OSM is increased by exercise in plasma and arise from subcutaneous adipose tissue depots but not skeletal muscles. A: Plasma oncostatin-M level in men and women with either NGT or T2D (n=8 per group). #time effect (2-way ANOVA on log-transformed values), ###p<0.001. B: ELISA of plasma OSM (n=9) and mRNA expression level of the exercise- and recovery-responsive genes OSM, OSMR, COL1A1, MKI67, LIPG and TOP2A in leg adipose tissue biopsies of men (n=7) before and 3h30 after breakfast. Wilcoxon Test, non-significant. C: mRNA expression level of the exercise-responsive cytokines OSM, IL6 and CXCL2 in abdominal adipose tissue biopsies in young healthy men before and just after a 15' cycling exercise bout. ***: p<0.001, Wilcoxon Test. D: raw CPM values of OSM and OSMR in skeletal muscle biopsies of men with either NGT or T2D (n=17 and 20 per group). Mixed effect analysis, OSMR data are log transformed. #time effect, ###p<0.001; *condition, ** p<0.01. Related to figure 5.



Supplemental Figure 4: Candidates genes expressions in adipose tissue after fractionation and in adipocytes *in vitro*.

A-B-C: gene expression of GDF15, SFRP4 and MXRA5 in cells derived from adipose tissue after fractionation. D-E-F-G: Human preadipocytes were differentiated *in vitro* and exposed for 3h to isoproterenol or forskolin, and expression levels of OSM and its receptors subunits OSMR, LIFR and IL6ST were measured by qPCR. Friedman's test, $*=p<0.05$, $***=p<0.001$. H: Correlation analysis between OSM expression at basal, post and recovery, as well as the induction in response to exercise, and clinical parameters related to glucose control and adiposity. $*=p<0.05$. Related to Figure 4 and 5.