

Supplementary Data

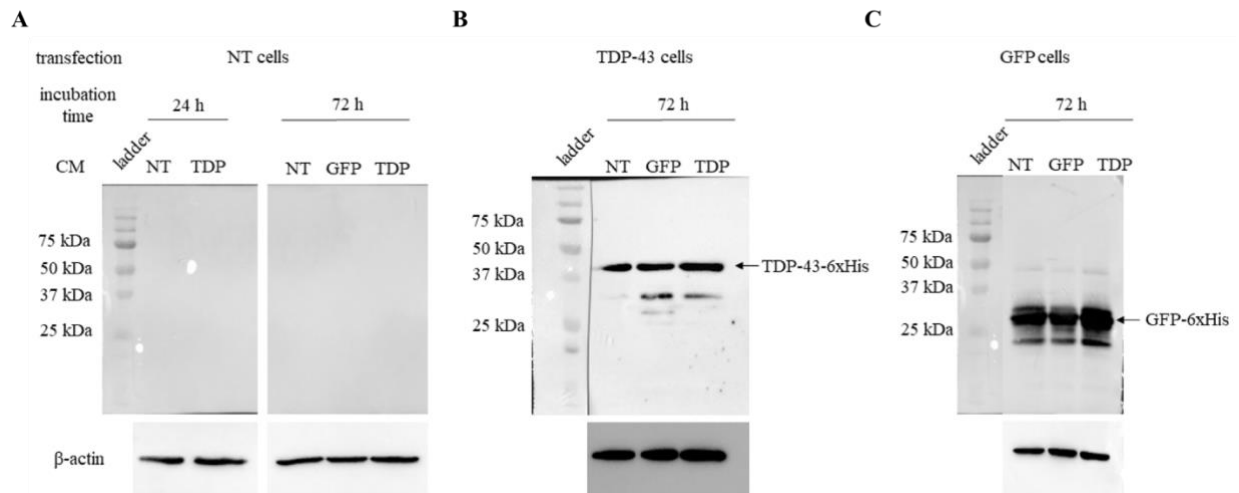


Fig. S1. Immuno-detection of Propagating TDP-43 in HEK293T Cells.

Figure A represents naïve, non-transfected cells incubated in conditioned media for either 24 or 72 h. No His-tagged protein could be detected, meaning that the 72-h incubation period revealed no difference from the 24 h period. Figures B and C show respectively the staining of TDP-43-transfected and GFP-transfected cells, respectively, in each conditioned medium. These conditions served as controls to verify the function of the primary antibodies. Representative images of $N = 3$.

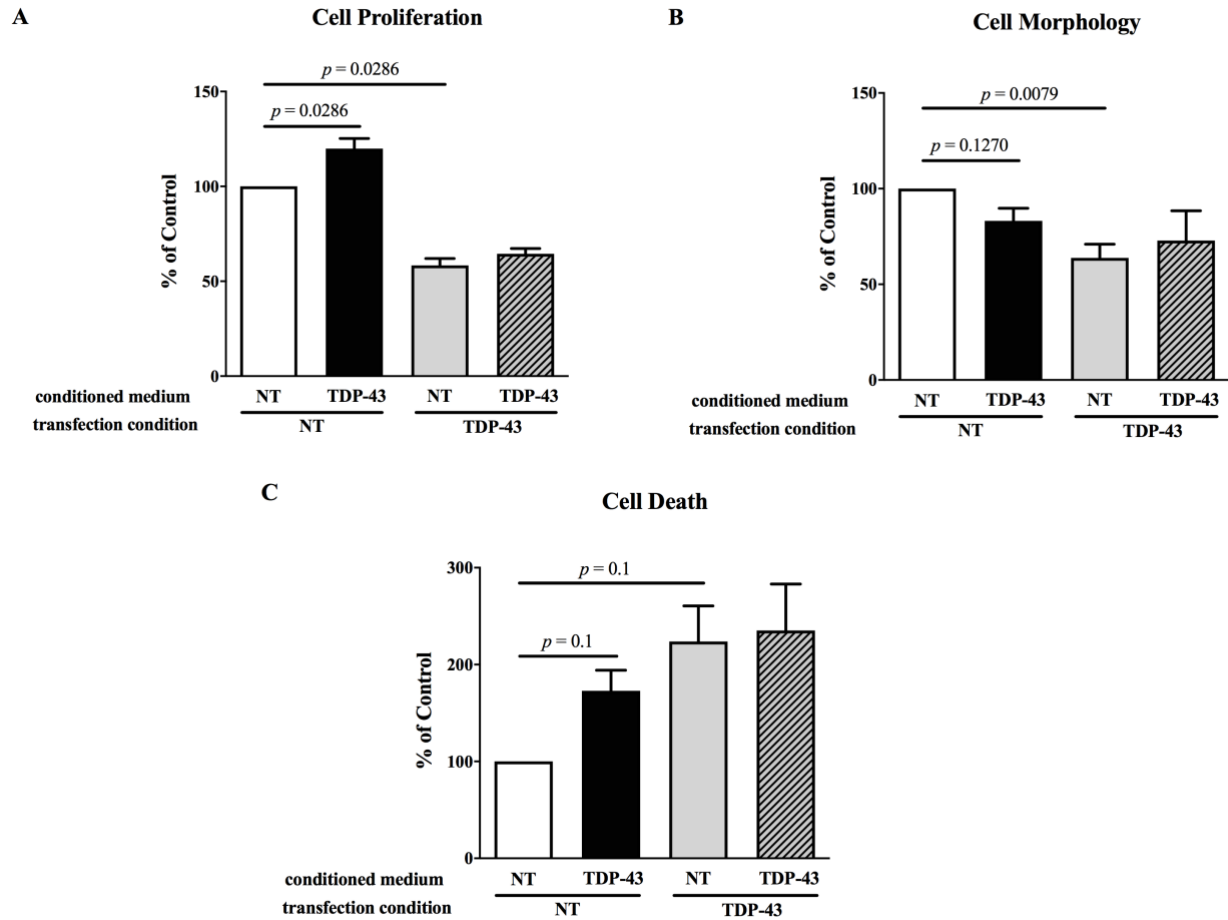
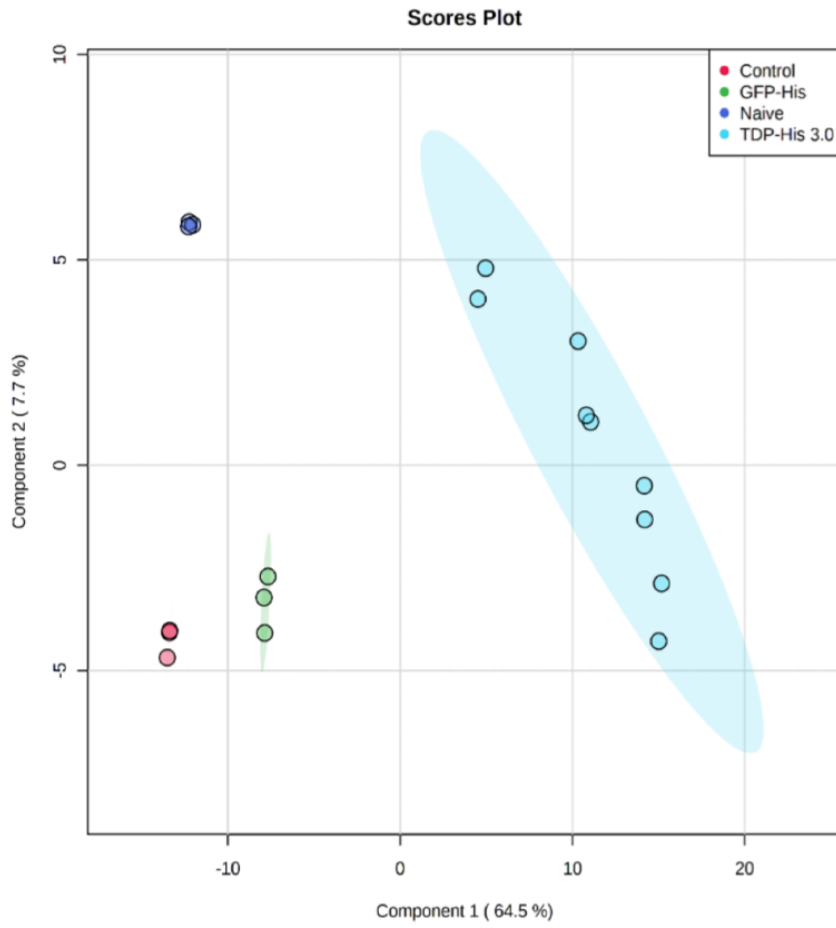
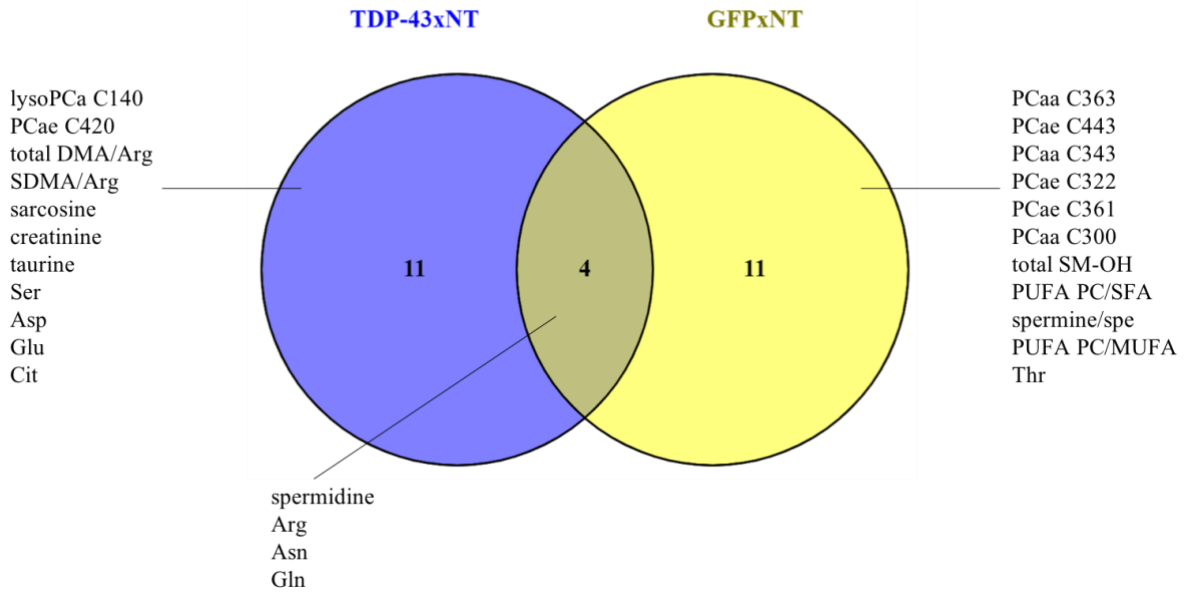
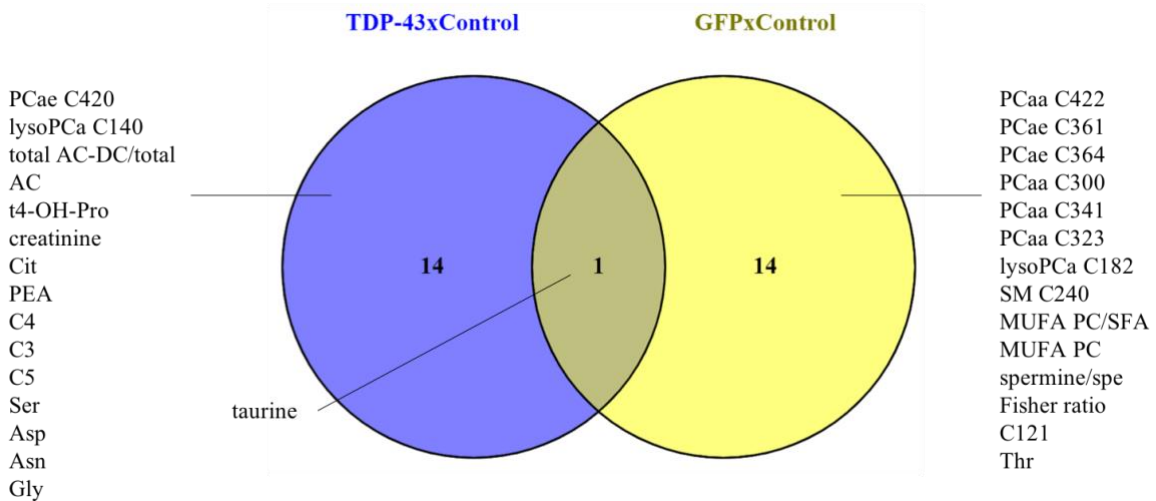


Figure S2. Alterations in Cell Functions Induced by TDP-43 Overexpression.

A) Cell proliferation was measured by the MTT reduction assay. TDP-43 CM/NT cells (black bar) showed a slightly significantly higher rate than NT CM/NT cells (white bar, control). NT CM/TDP-43 cells (striped bar) also demonstrated a significantly lower rate than NT CM/NT cells. $N=4$. B) Morphological modifications were measured by comparing the SSC/FSC gating among conditions. NT CM/TDP-43 cells (grey bar) showed a significantly lower density of cells with the SSC/FSC distribution of NT CM/NT cells (white bar, control), indicating morphological changes. $N = 5$. C) Cell death was measured with propidium iodide staining. Positive expressing cells represent dead or dying cells that took up propidium iodide. Statistical analysis showed no significance among conditions. $N = 3$. Statistical test: Mann-Whitney non-parametric t-test.

A



B**C****Fig. S3. Different Metabolomes Result from Different Overexpression Conditions**

A) PLS-DA scores plot of multivariate analysis. Red: control = HEK-293T cells transfected with 3.0 µg of empty vector. Green: cells transfected with 3.0 µg of GFP-6xHis cDNA. Dark blue: naïve = NT cells only treated with transfection agent. Light blue: TDP-His 3.0 = cells transfected with 3.0 µg of TDP-43-6xHis cDNA. B) Venn Diagram comparing the 15 discriminant metabolites from TDP-43 vs Naive and GFP vs Naive conditions. C) Venn Diagram comparing the 15 discriminant metabolites from TDP-43 vs Control and GFP vs Control conditions. No comparison shows the same distribution of metabolites as the other. *N* = 3 for all analyses. Metabolomics analyses were realized with MetaboAnalyst (<http://www.metaboanalyst.ca>).