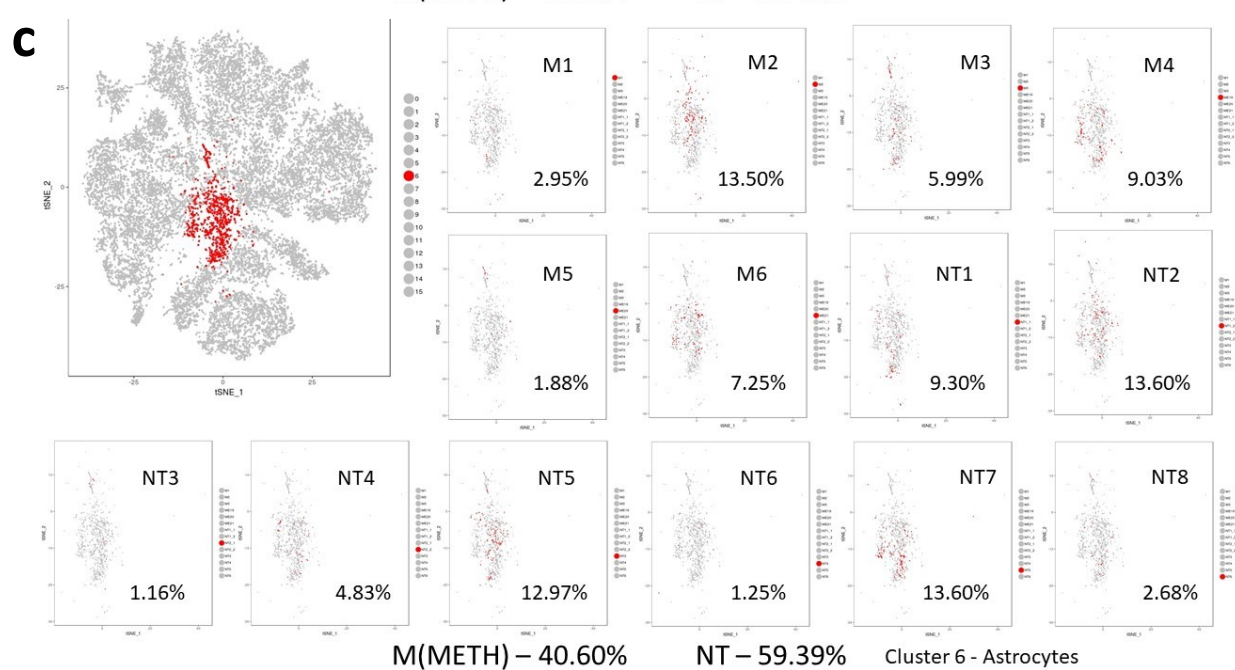
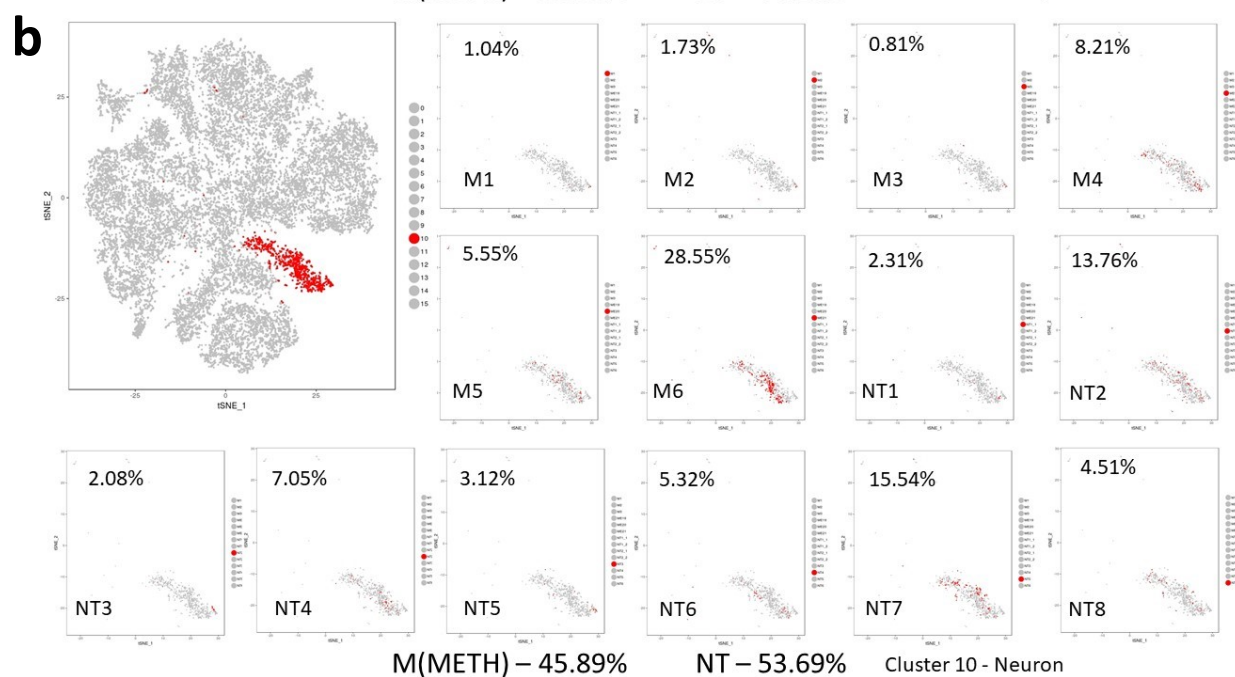
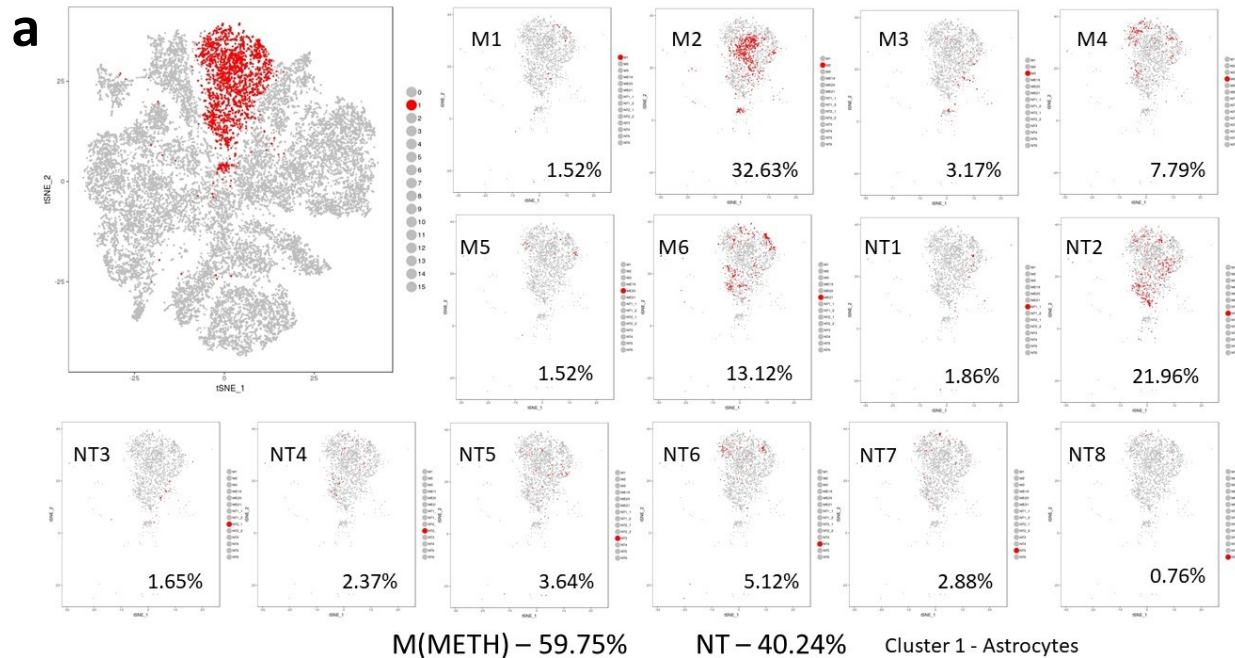
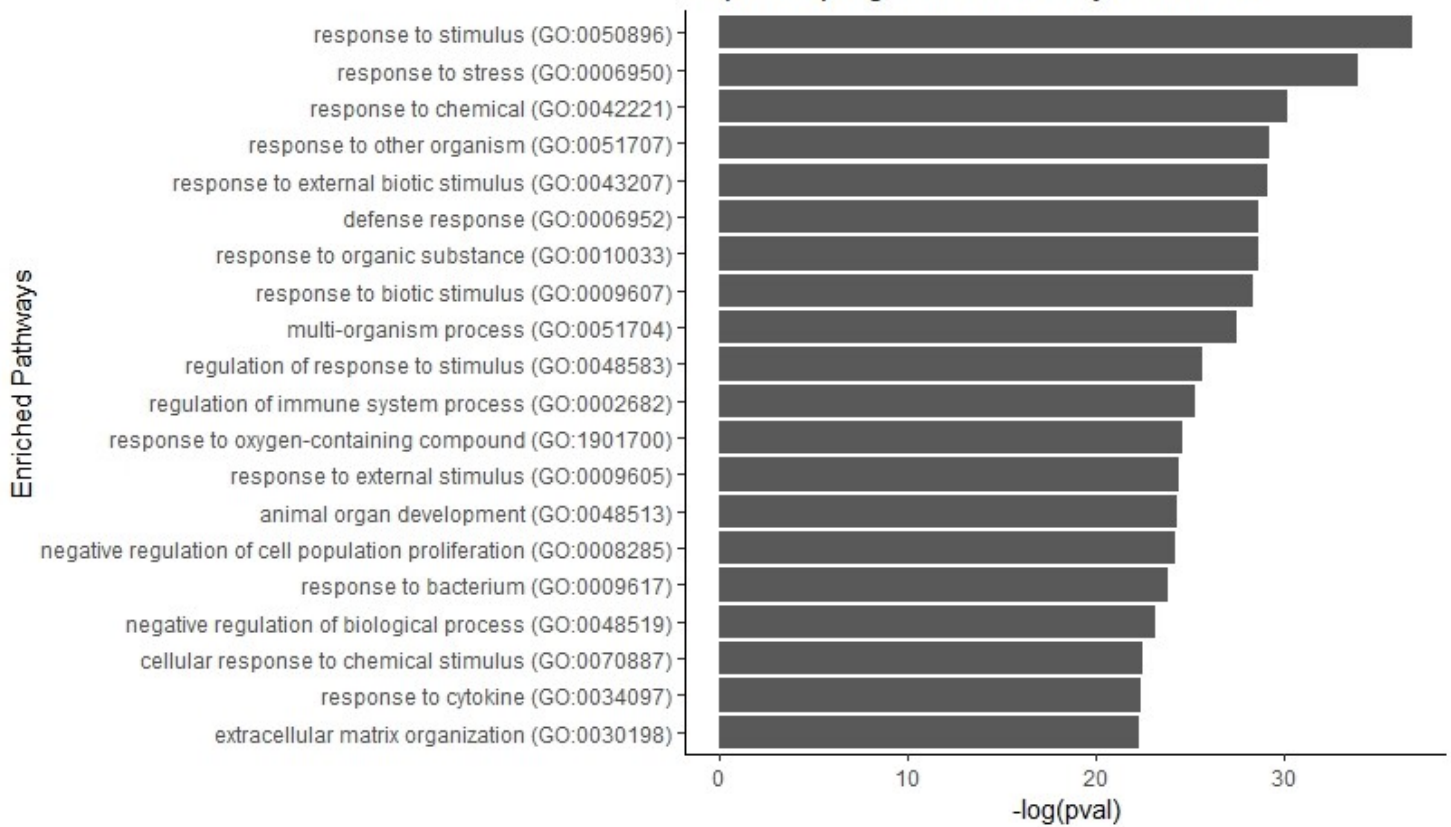
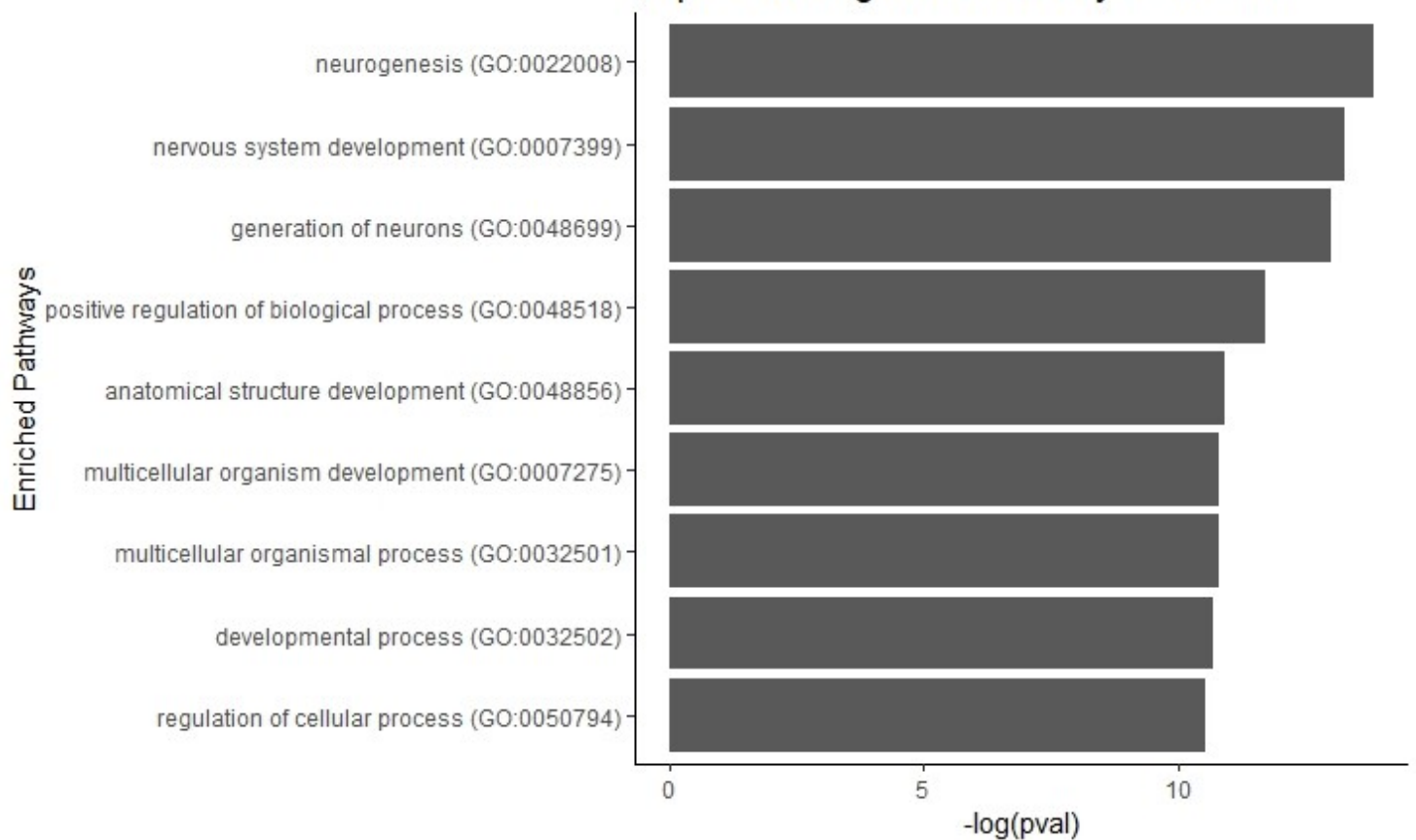




Supplementary Figure 1: Cerebral organoid heterogeneity. Related to Figure 1.

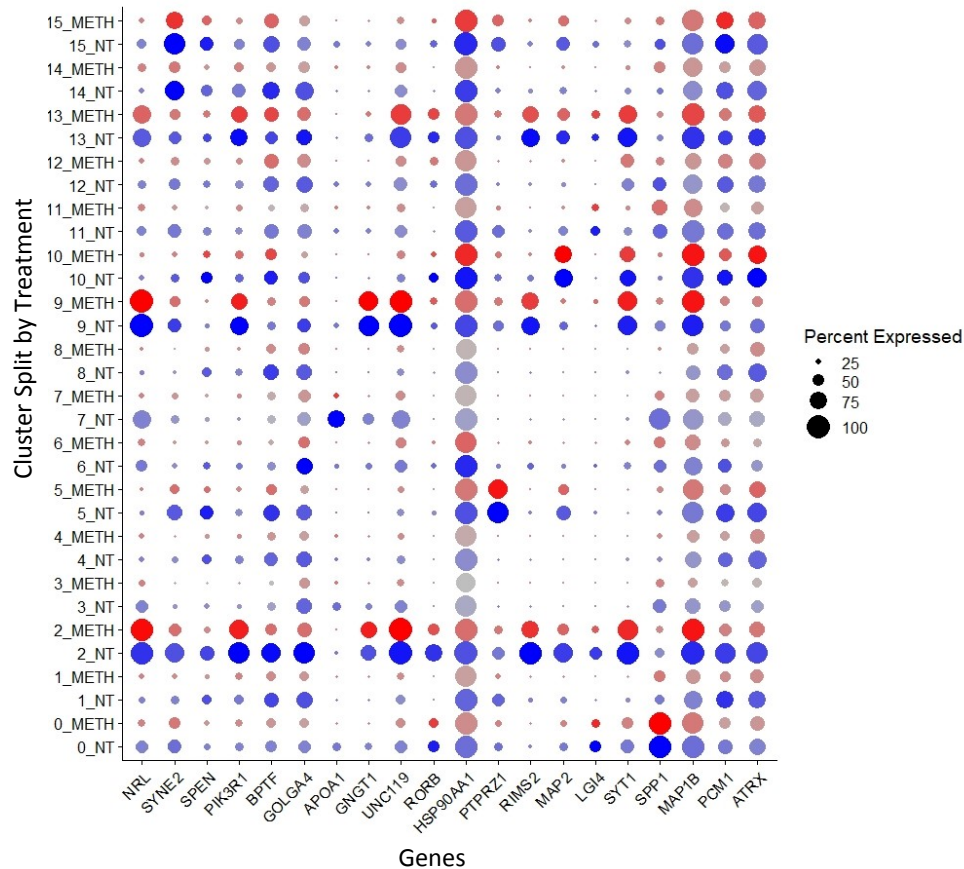
- (a) Cluster 1, a cluster of astrocytes, with the composition of cells from each organoid from the two types of treatment and the overall percentage of cells from each treatment group to show the distribution of cells across treatment.
- (b) Cluster 10, a cluster of neurons, with the composition of cells from each organoid from the two types of treatment and the overall percentage of cells from each treatment group to show the distribution of cells across treatment.
- (c) Cluster 6, another cluster of astrocytes, with the composition of cells from each organoid from the two types of treatment and the overall percentage of cells from each treatment group to show the distribution of cells across treatment.

a**Top 20 Upregulated Pathways in METH****b****Top 9 Downregulated Pathways in METH**

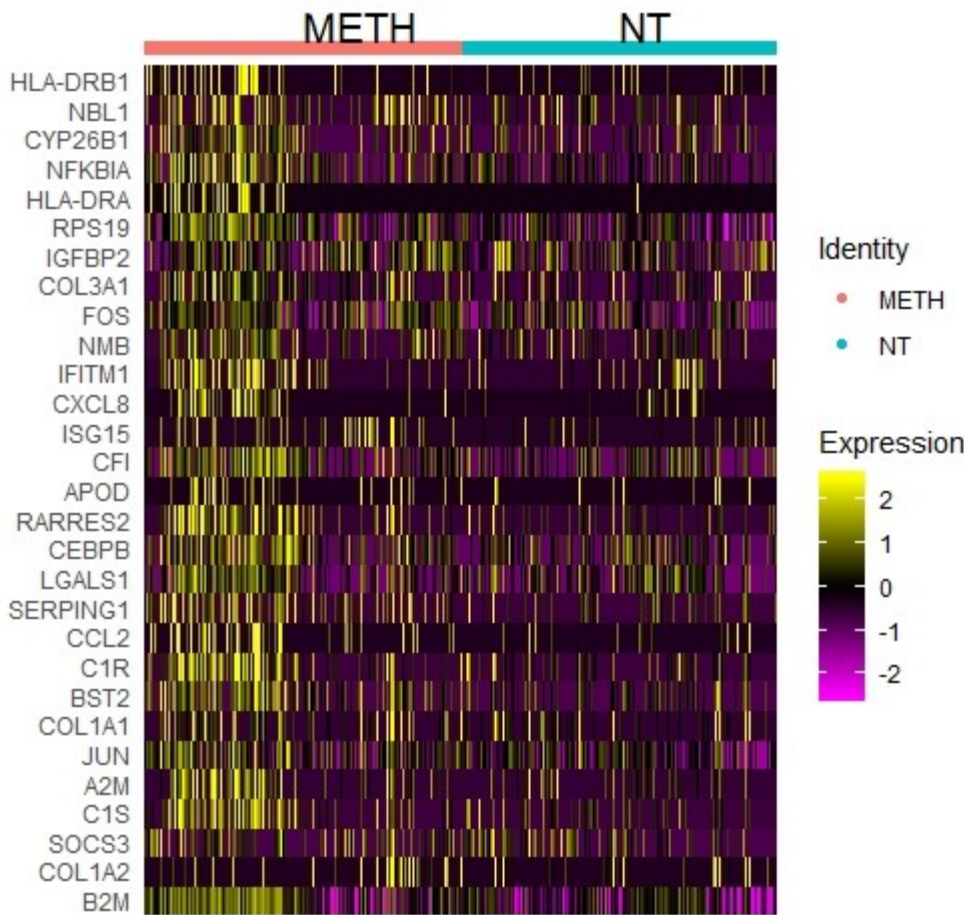
Supplementary Figure 2: PANTHER pathways for up and down regulated genes due to METH treatment. Related to Figure 2.

- (a) The top 20 upregulated pathways derived from the list of upregulated genes due to METH treatment via PANTHER. A total of 216 pathways were found to be upregulated.
- (b) The top 9 downregulated pathways derived from the list of downregulated genes due to METH treatment via PANTHER.

a

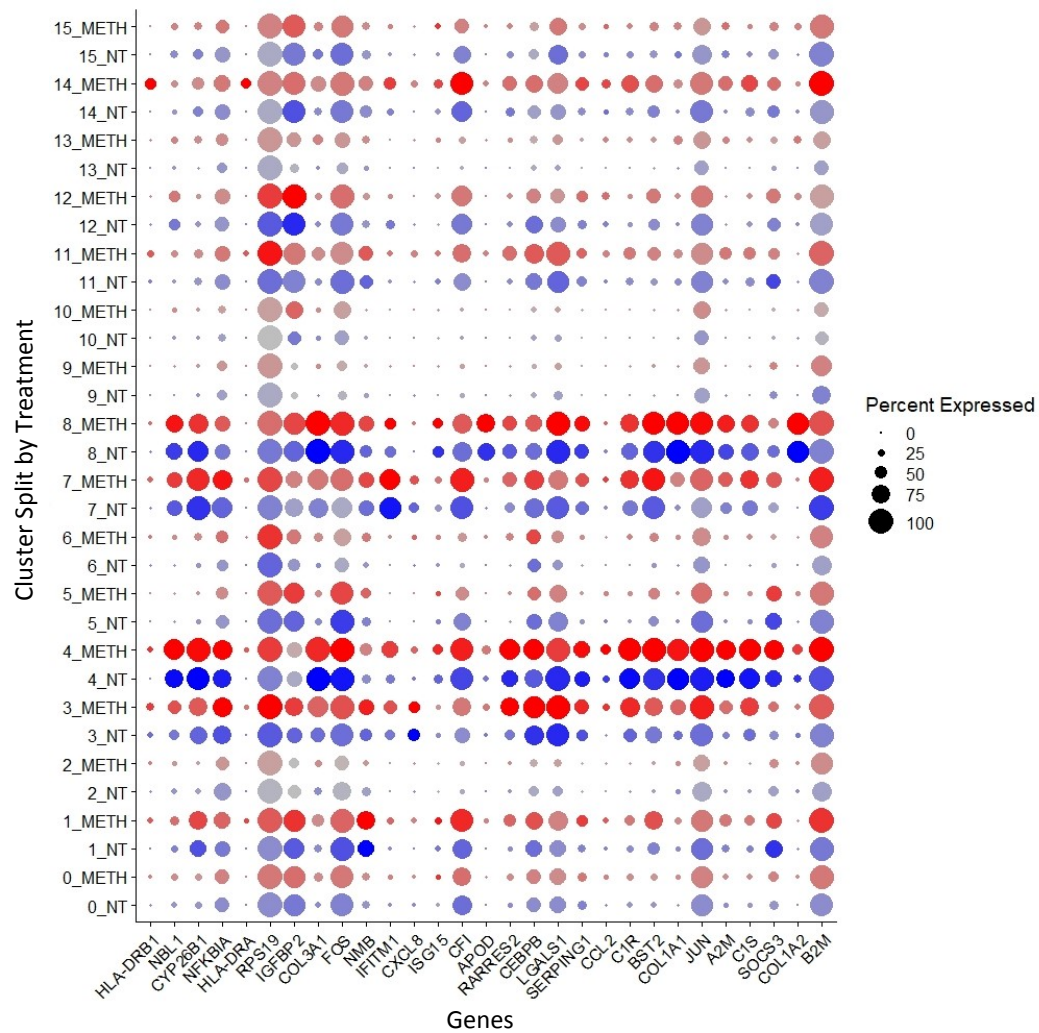
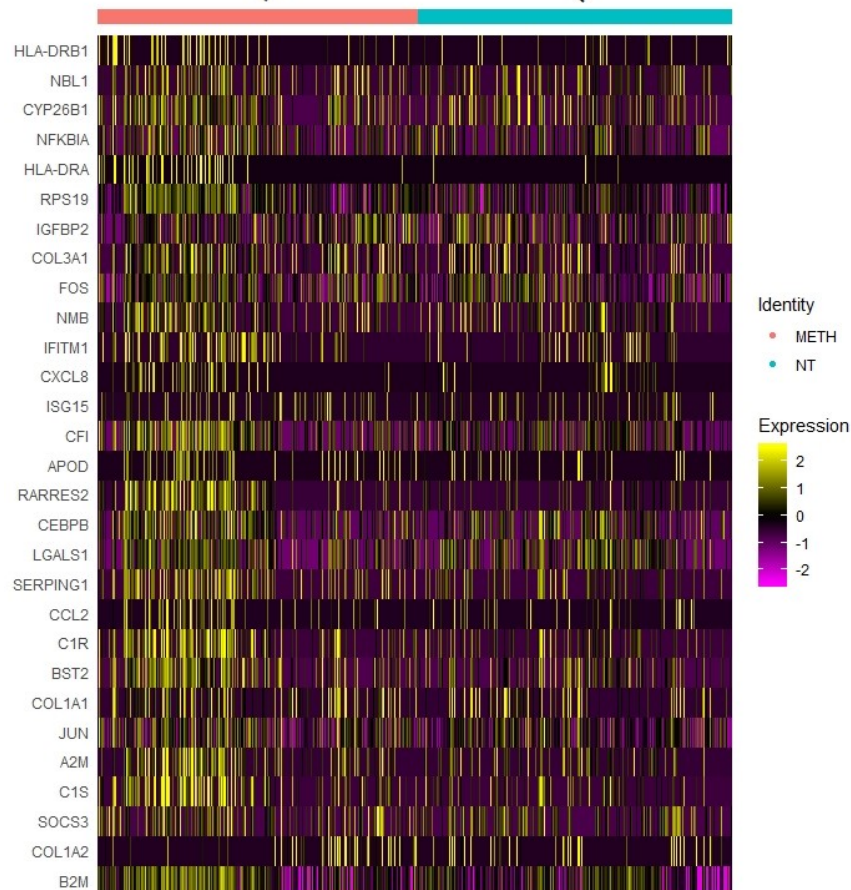


b



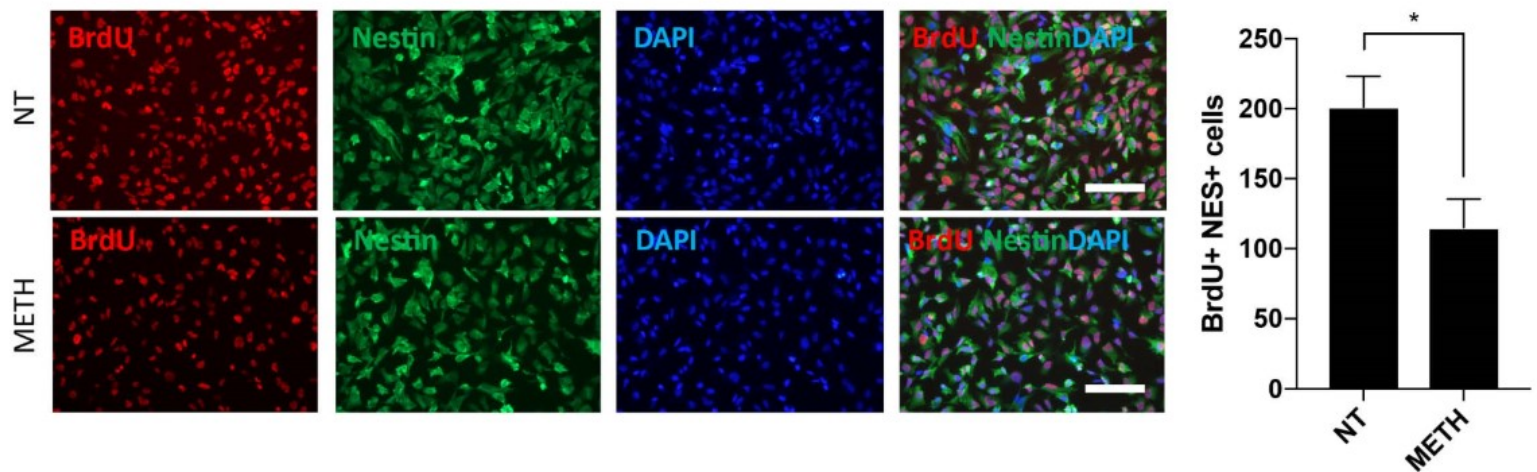
Supplementary Figure 3: Downregulation of genes pertaining to neurogenesis as a result of METH treatment. Related to Figure 3.

- (a) A dot plot of the genes from the set of genes downregulated by METH (Figure 2A) treatment identified by PANTHER to be related to neurogenesis, generation of neurons, and nervous system development. Each cluster is divided by treatment, where blue dots represent cells from control organoid and red dots represent cells from METH treated organoids. Darker shades of blue and red and size of dots represent greater expression of genes and percentage of cells expressing the gene.
- (b) A heatmap of the same genes from Figure S3A separated by treatment, for a holistic view of the data.

a**b**

Supplementary Figure 4: Immune response genes upregulated as a result of METH treatment. Related to Figure 4.

- (a) A dot plot of the genes from the set of genes upregulated by METH (Figure 2B) treatment identified by PANTHER to be related to immune response. Each cluster is divided by treatment, where blue dots represent cells from control organoid and red dots represent cells from METH treated organoids. Darker shades of blue and red and size of dots represent greater expression of genes and percentage of cells expressing the gene.
- (b) A heatmap of the same genes from Figure 4A separated by treatment, for a holistic view of the data.



Supplementary Figure 5. METH treatment attenuates neural stem cell proliferation. Related to Figure 5.

Untreated (top row) and METH treated (bottom row) monolayer neural stem cells immunostained for BrdU (red), neural stem cell marker Nestin (green) and DAPI (blue) after 1 week of treatment with 5μM METH. Scale bar represents and 100μm.