**Supplementary Figure 1.** *Neurosphere cells express IFNGγ1.*

Neurospheres were cultured for 3 days *in vitro*, dissociated into a single cell suspension, and stained for neural cell markers and for the R1 subunit of the IFNγ receptor (IFNγR1). Antibodies for IFNγR1 (α-IFNGR1), the NSPC marker nestin (α-Nestin), and the immature neuron marker doublecortin (α-DCX) were used along with appropriate isotype controls. The cells were analyzed by flow cytometry and debris was excluded using the gate in **(A**). IFNγR1 expression was measured for non-permeabilized cells (81.6% positive) and permeabilized cells (61.3% positive) **(B)**. Thus, the permeabilization step reduced IFNγR1 staining by 24.9% compared to non-permeabilized cells. In order to co-label the neurosphere cells with nestin and DCX, permeabilized cells were stained for nestin and IFNγR1 (C) or DCX and IFNγR1 (D). With permeabilization, 55.2% of nestin+ cells were also positive for IFNγR1, and 75.5% of DCX+ cells were also positive for IFNγR1.

**Supplementary Figure 2***. IFNγ increases BrdU+ cells in the G2/M phase in WT but not STAT1-KO NSPCs.*

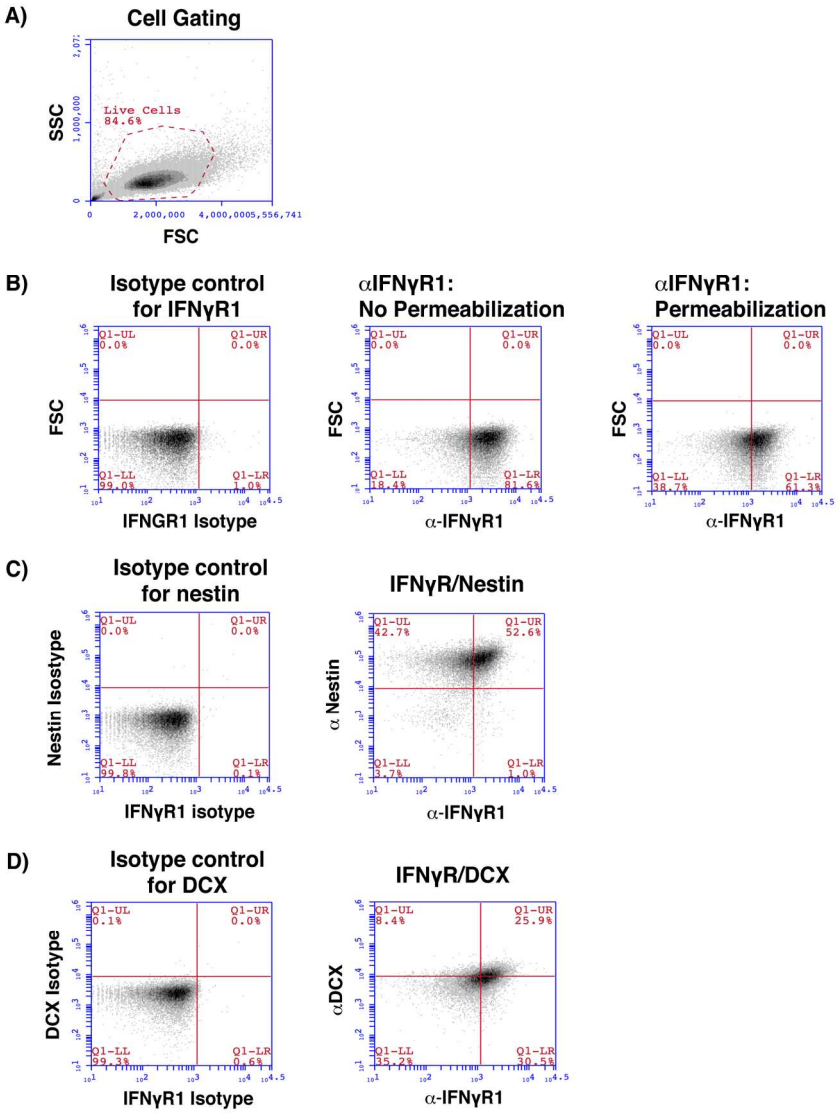
The number of BrdU+ cells in the G2/M phase was measured by using the G2/M gate in the BrdU assay. An isotype control for the anti-BrdU antibody was used to delineate BrdU- cells (dotted line) **(A)**. The number of BrdU+ cells within the G2/M gate was quantified for different treatment groups from WT and STAT1-KO NSPCs **(B).** Differences in cell numbers between IFNγ-treated and control groups were determined using one-way ANOVA with Dunnett's post-hoc correction (** $p<0.01$). **(C)** Differences in

the numbers of BrdU+ cells in the G2/M phase between untreated WT and STAT1-KO NSPCs was determined using a two-tailed unpaired Student's t-test (* $p<0.05$).

**Supplementary Figure 3**. *IFNγ decreases neurosphere diameter in a STAT1-dependent manner.*

WT or STAT1-KO NSPCs were treated with IFNγ (1-1000 U/ml) for indicated times. The diameter (μm) of WT neurospheres **(A)** and STAT1-KO neurospheres **(B)** were measured at indicated days post-IFNγ treatment. Heat-inactivated IFNγ (ΔH-IFNγ; 1000 U/ml) was used as negative control. The average diameter in μm is plotted for each condition ± SEM. Statistical analysis was applied using one-way ANOVA with Dunnett's post-hoc analysis (n=3) * $p<0.05$, **** $p<0.0001$.

***Supplementary Figure 1***

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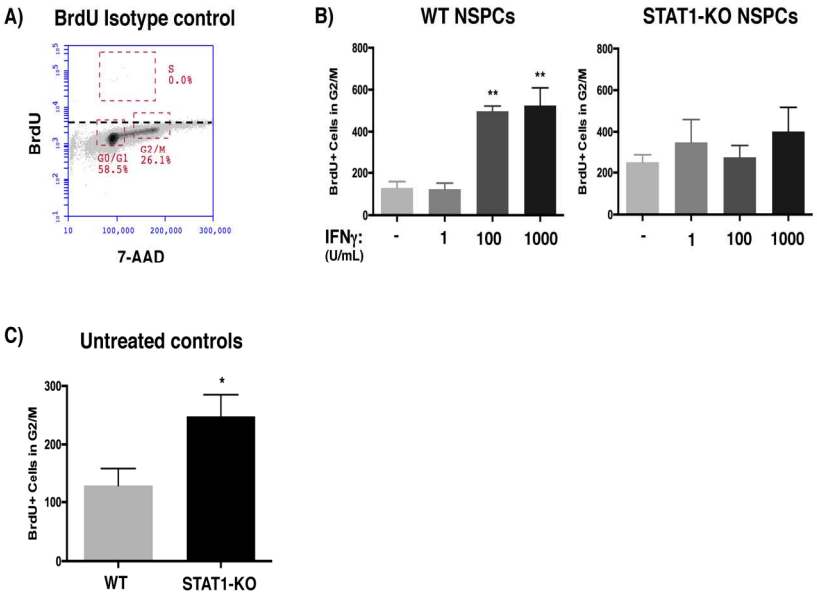
*Supplementary Figure 2*

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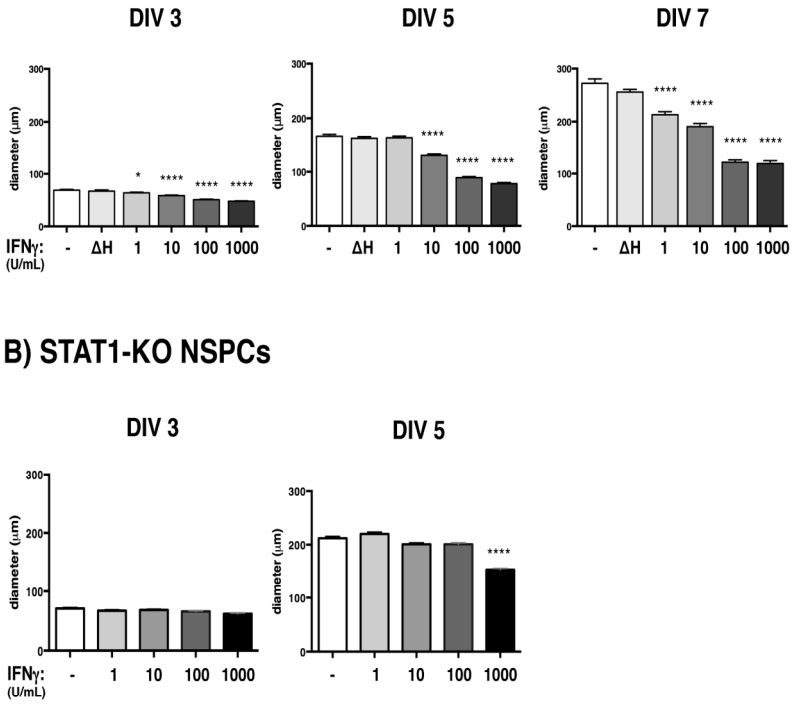
*Supplementary Figure 3*

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