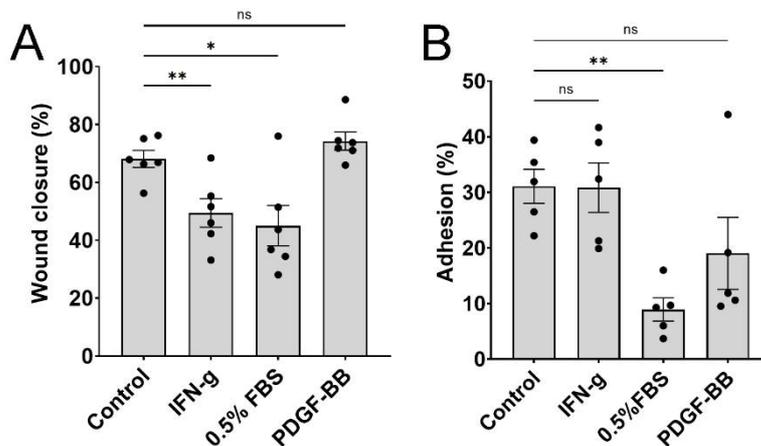
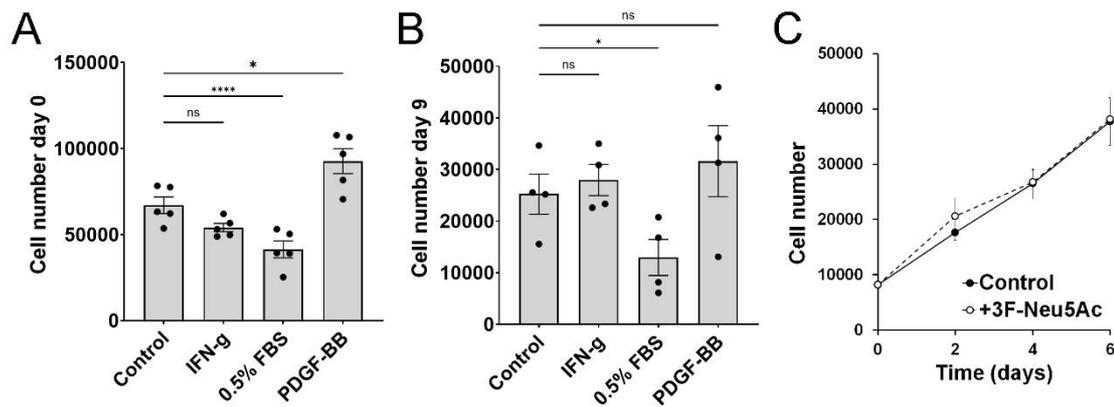


**Supplementary Figure S1. IFN- $\gamma$  and high density increase sialylations of N-glycans in MSCs.** (A) MSCs were cultured for 24 hours with various concentrations of IFN- $\gamma$  and analyzed by flow cytometry to determine sialylations by means of SNA binding (n = 9). (B) MSCs were cultured for 48 hours at the indicated cell densities prior to flow cytometry analysis using SNA staining (n = 4). \* p < 0.05; \*\* p < 0.005; \*\*\* p < 0.0005; \*\*\*\* p < 0.00005.



**Supplementary Figure S2. Effect of IFN- $\gamma$ , 0.5% FBS and PDGF-BB on migration and adhesion of MSCs.** (A) MSCs pre-treated with the respective conditions were tested in wound/scratch assays to determine effects on cell migration. Here, pre-treatment with IFN- $\gamma$  or with 0.5% FBS (instead of 10% FBS, Control) significantly reduced wound closure, while PDGF-BB had no significant impact. (B) Adhesion assays of MSCs pre-treated as in A. Here, only 0.5% FBS significantly affected cell adhesion by reducing it. ns: not significant; \* p < 0.05; \*\* p < 0.005, as determined using 1-way ANOVA and post hoc Tukey test.



**Supplementary Figure S3. Effect of IFN- $\gamma$ , 0.5% FBS, and PDGF-BB on proliferation and survival of MSCs and effect of 3F-Neu5Ac on cell proliferation.** (A) Cells were pre-treated for 48 hours under the indicated conditions. Then (time 0), cells were lifted and counted ( $n = 5$ ). (B) Cells were treated as in A, but at time 0, medium was changed to serum-free media and cells were transferred to an hypoxic incubator (1% Oxygen), without further medium changes. After 9 days, the remaining cells were lifted and counted ( $n = 4$ ). (C) Cell proliferation assay of cells treated with or without 3F-Neu5Ac (50 $\mu$ M). At each time point, cells (plated in triplicate) were lifted and counted using hemocytometer and trypan blue exclusion dye ( $n = 4$ ). ns: not significant; \*  $p < 0.05$ ; \*\*\*\*  $p < 0.00005$ .