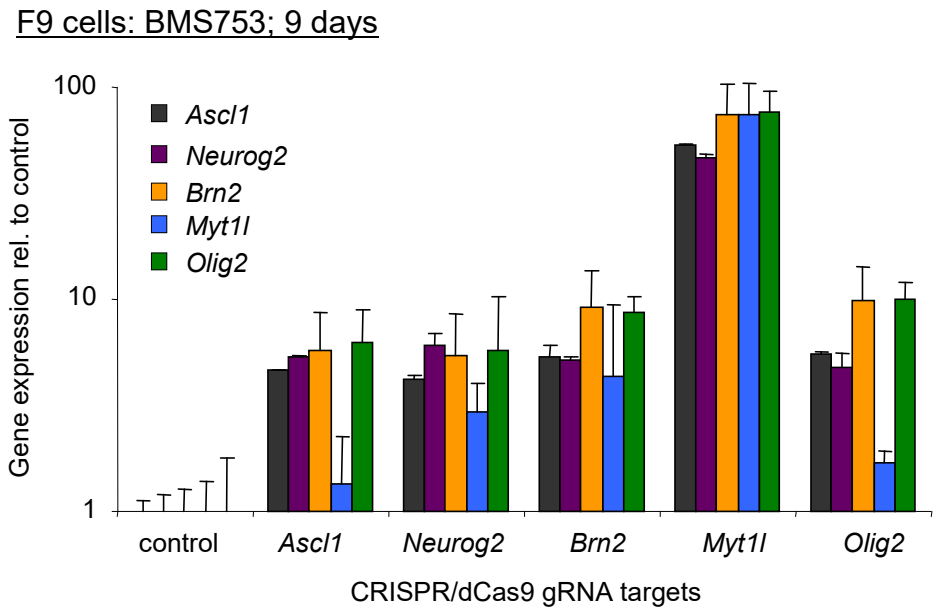
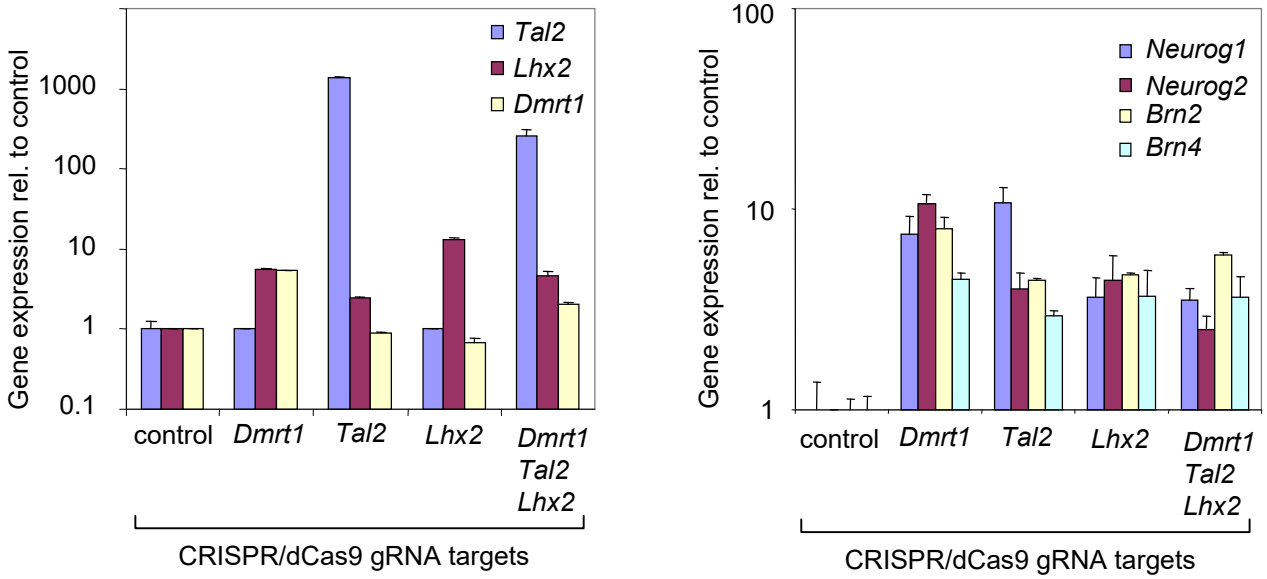
A



B



Supplementary Figure S16. Reprogramming of F9 cells towards the neuronal lineage. (A) Activation of the indicated (silent) neuronal factors was engineered in F9 cells by CRISPR/dCas9-mediated transcription activation of the corresponding endogenous genes and cells were treated with the RARA-specific BMS753 as indicated. The cross-regulatory activity of theses factors among each other suggests the existence of a cross-regulatory network of neuronal factors. **(B)** Similar CRISPR/dCas9-mediated transcription activation of *Dmrt*1, *Tal2*, or *Lhx2*, which encode newly predicted potential master regulators of neurogenesis. The assay was performed in presence of the RARA-specific BMS753 and the RARB-specific BMS641, as none of them induces F9 cell differentiation, but they are able to activate factors of the F9/P19 common GRP and, thus, enhance CRISPR/dCas9-mediated transcription activation (see Supplemental Fig. S15). As illustrated in the right panel, the endogenous activation of these predicted factors in F9 cells resulted in transcription induction of the neuronal factors *Neurog1*, *Neurog2*, *Brn2* and *Brn4*.