

Supporting Information

Ehrman et al. 10.1073/pnas.1308275110

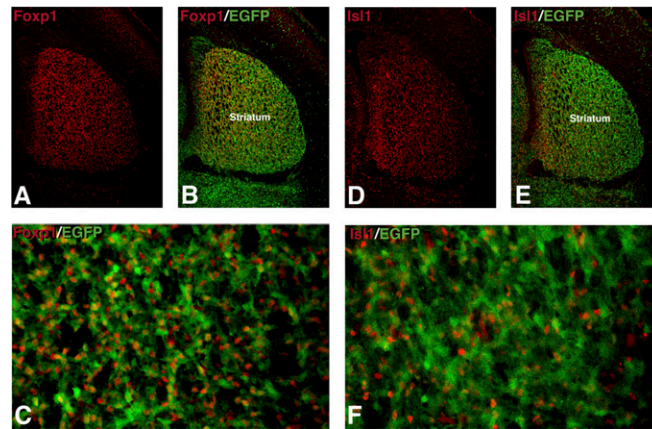


Fig. S1. *Isl1* is expressed in a subset of the *Dlx 5/6* fate-mapped (*Dlx 5/6-CIE*; *CC-EGFP*) striatal cells at E18.5. (A) FoxP1 immunostaining shows that FoxP1 marks all striatal-projection neurons. (B; high power in C) The majority of *Dlx 5/6* fate-mapped cells express FoxP1. (D) *Isl1* is expressed in the embryonic striatum. (E; high power in F) *Isl1* is expressed in less than half of *Dlx 5/6* fate-mapped cells.

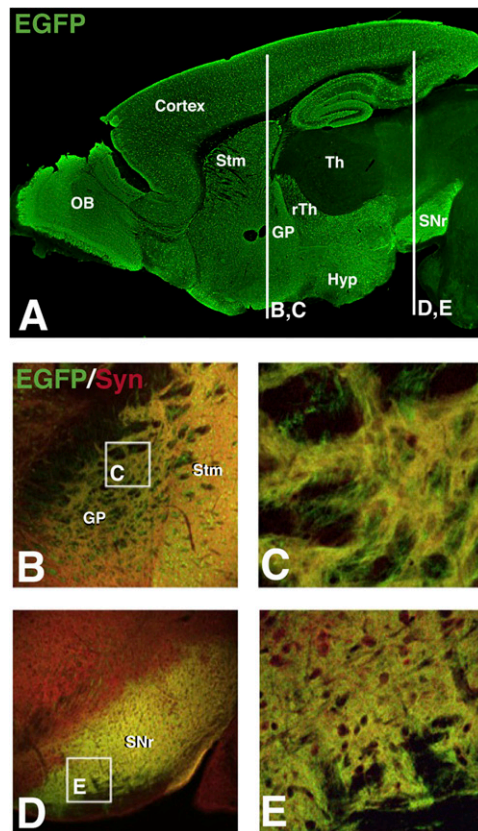


Fig. S2. *Dlx 5/6* fate-mapped cells contribute to both the striatonigral and striatopallidal pathway. (A) *Dlx 5/6* fate-mapped cells are found throughout the telencephalon and diencephalon. The white lines in A delineate the approximate levels of the coronal sections in B–E. *Dlx 5/6* fate-mapped cells synapse with both the (B) GP and the (D) SNr as indicated by the coexpression of Syn with EGFP⁺ *Dlx 5/6* fate-mapped cells. C and E are high powered images of the boxed area in B and D, respectively. GP, globus pallidus; Hyp, hypothalamus; OB, olfactory bulb; rTh, reticular thalamic nucleus; SNr, substantia nigra pars reticulata; Stm, striatum; Th, thalamus.

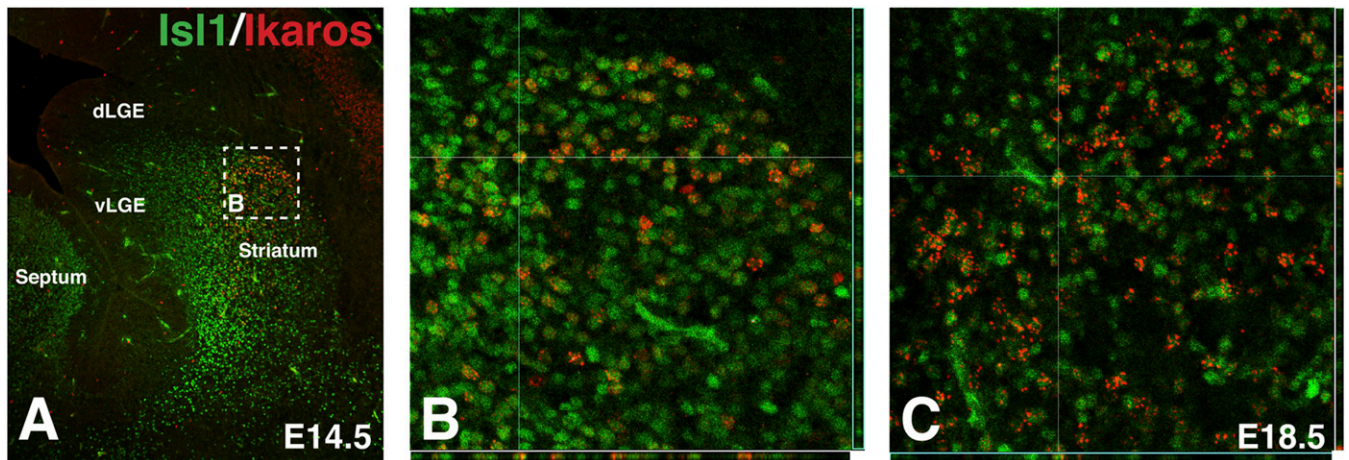


Fig. 56. Colocalization of *Isl1* and *Ikaros* in the LGE SVZ. (A) Although *Isl1* is expressed throughout the developing striatal complex, *Ikaros* is enriched in the dorsolateral region of the developing striatum at E14.5. (B) High-power z-stack from the E14.5 LGE SVZ showing colocalization of *Isl1* and *Ikaros* in many cells. Note that there seem to be only a few *Ikaros*-only cells and many *Isl1*-only cells. (C) High-power z-stack from the E18.5 LGE SVZ again showing colocalization of *Isl1* and *Ikaros*; however, at this stage, there seem to be more *Ikaros*-only cells.

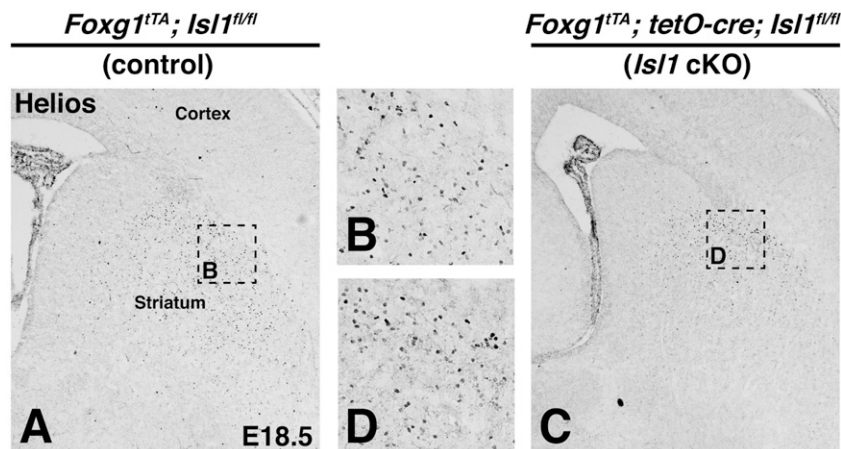


Fig. 57. Helios expression in the *Isl1* conditional mutant striatum. (A) Helios is expressed by cells in the dorsolateral regions of the developing striatum at E18.5. (B) High power of boxed striatal area in A. (C) *Isl1* conditional mutants exhibit a smaller striatum at E18.5; however, the density of Helios cells appears similar to the controls. (D) High power view of boxed area in C.

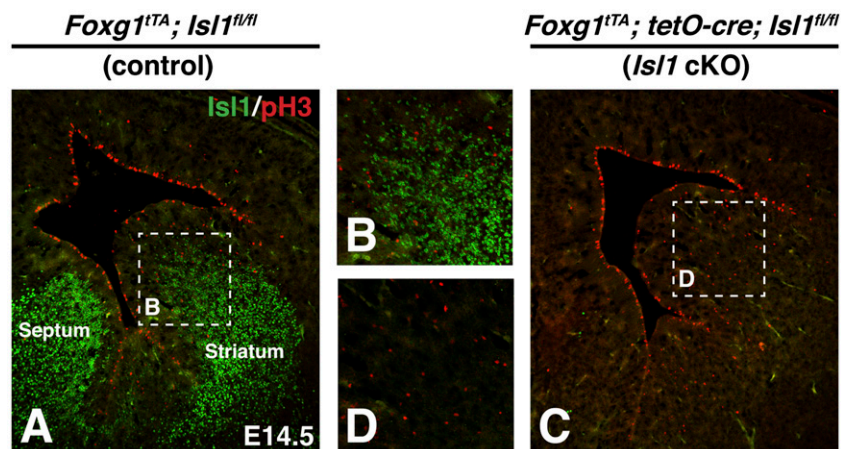


Fig. 58. Proliferation in the *Isl1* conditional mutant LGE at E14.5. (A) pH3-positive (i.e., M-phase) cells are observed in apical (i.e., VZ) and basal (i.e., SVZ) portions of the control LGE. (B) High power of boxed region in A showing little, if any, colocalization of *Isl1* and pH3 in the SVZ. (C) Similar numbers of pH3 cells are observed in the *Isl1* mutant LGE at both apical and basal positions. (D) High power view of the boxed area in C.