Supplemental material

Title: Olig2 regulates Purkinje cell generation in the early developing mouse cerebellum

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Supplemental Figure 1:

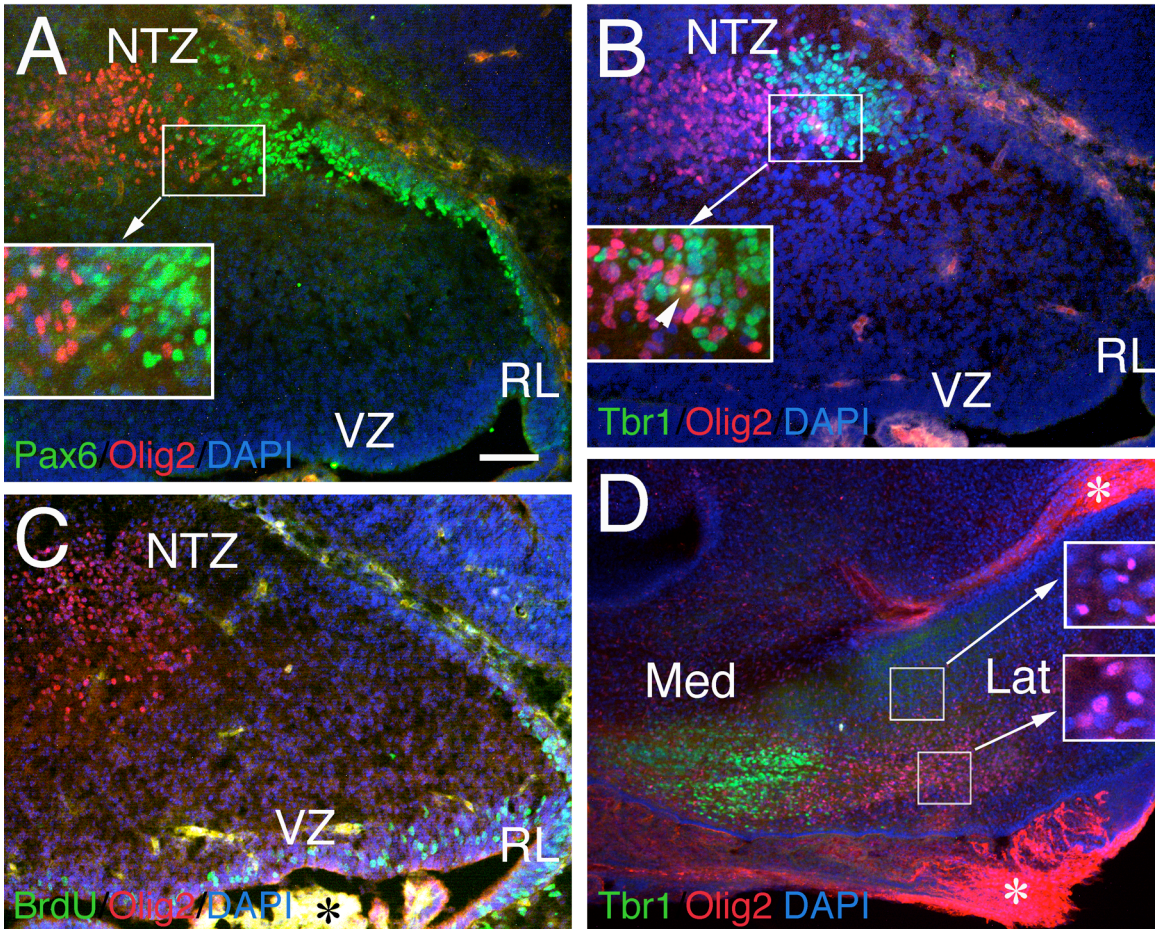

Figure S1. **The NTZ Olig2$^+$ cells represent a distinct subpopulation of DCN neurons in the embryonic cerebellum.** Mid-sagittal sections of the E14.5 (**A-C**) and coronal sections of the E18.5 (**D**) wild-type cerebella are immunostained. The NTZ Olig2 and Pax6 (to label GNPs) show a non-overlapping pattern (**A**). Between the Olig2$^+$ and Pax6$^+$ domains, there are a group of cells that are negative for both markers, but positive for Tbr1 (to label a subset of DCN neurons) (**B**). Higher magnification views of the boxed regions are shown as inserts in (**A** and **B**). Although the Olig2$^+$ and Tbr1$^+$ domains are closer in position with double positive cells being occasionally seen (**B**, insert, arrowhead), they are largely non-overlapping. In addition, the NTZ Olig2$^+$ cells are nearly all postmitotic as indicated by their inability to take up BrdU in a BrdU-pulse labeling experiment (**C**). Notably, a number of BrdU$^+$ cells can still be found in the VZ, and yet Olig2 expression has already disappeared in this region at this developmental stage. At E18.5, while Tbr1$^+$ neurons concentrate to the medial (Med) part of the DCN, Olig2 expression is more towards the lateral (Lat) region (**D**). Two morphologically distinct Olig2$^+$ cells are found with smaller cells being located in the periphery of the Olig2$^+$ domain and bigger cells being in the core (**D**, inserts). Non-specific staining signals from the choroids plexus and a representative blood vessel are indicated by asterisks in (**C**) and (**D**). VZ, ventricular zone; RL, rhombic lip; NTZ, nuclear transitory zone. Scale bar: 80 μm in **A-C**; 160 μm in **D**.