



Supplemental Figure 5. In contrast to *Dlx1*^{-/-} cells in layers 2-4 (panels A-B), those in layers 5-6 showed altered average tuning curves based on early (panel D) but not late responses (panel E). Consistent with this, our histological analysis showed that in layers 2-4 of the *Dlx1* mutant mice (panel C), calretinin⁺, NPY⁺, and somatostatin⁺ cells are reduced, but parvalbumin⁺ cells are increased, while in layers 5-6 (panel F), calretinin⁺, NPY⁺, and somatostatin⁺ cells appeared unchanged (given that the total number of parvalbumin⁺ cells are unchanged but there is an increase in layers 2-4, the number of parvalbumin⁺ cells may be slightly decreased in layers 5-6, as indicated by the arrow, although $p > 0.05$ for these comparisons). For all comparisons, *: $p < 0.05$; **: $p < 0.01$. PV: parvalbumin⁺; CR: calretinin⁺; NPY: NPY⁺; SOM: somatostatin⁺.