

Table S1. Statistics on *Phox2a* induction of chick midbrain oculomotor markers

Gene of interest (GOI)	Age of harvested embryo	Ectopic GOI expression/number of embryos analyzed	Totals for GOI
<i>PHOX2A</i>	E3	5/5	48/80
	E4	11/28	
	E5	22/36	
	E6	10/11	
<i>PHOX2B</i>	E4	11/13	11/13
<i>ISL1</i>	E3	5/5	67/85
	E4	8/21	
	E5	11/16	
	E6	43/43	
<i>ISL2</i>	E5	17/18	17/18
<i>NKX6.1</i>	E5	5/8	5/8
<i>SLIT3</i>	E5	8/8	8/8
<i>NRG1</i>	E5	1/8	6/14
	E6	5/6	
<i>CHAT</i>	E6	5/8	5/8
<i>VT</i>	E5	8/13	74/86
	E6	66/73	
<i>TBX20</i>	E5	4/9	28/45
	E6	24/36	

pEFX-*rPhox2a/Arix* was electroporated into chick embryos between HH st 9 and st 14. Embryos were harvested and in situ hybridization performed to test for induction of OMC marker gene expression. All embryos tallied were analyzed as whole-mounts with one-color or two-color gene detection methods. We were unable to test for ectopic induction of *ROBO2* and *CX36* because these genes are also expressed in lateral midbrain, which obscures detection of any ectopic gene expression (data not shown).