

**Table S1. Bioinformatics prediction of Nkx6-1 target genes**

Gene symbol	Promoter ID	Transcript ID	<i>Nkx6-1</i> BS in mouse promoter		Promoter sequences with <i>Nkx6-1</i> BS			<i>Nkx6-1</i> <sup>-/-</sup> phenotype	Nkx6-1 activity on promoter <sup>§</sup>
			Number	Position*	Sequences	Ortholog <sup>†</sup>	Conserved BS		
<i>Otx2</i>	GXP_236948	NM_144841	6	-518 to -175 bp	7	Hs, Mm, Rn, Cl, Bt, Ec, Pt	4	Ectopic induction	Repression
<i>Dbx1</i>	GXP_206557	NM_001005232	1	-329 bp	7	Hs, Mm, Rn, Cl, Bt, Ec, Pt	1	Ectopic induction	Repression
<i>Helt</i>	GXP_157998	NM_173789	4	-379 to +24 bp	5	Hs, Mm, Rn, Ec, Pt	4	Not changed	?
<i>Gad1</i>	GXP_815397	NM_008077	1	-765 bp	5	Mm, Rn, Cl, Bt, Ec	1	Not changed	?
<i>Nrp2</i>	GXP_1241740	‡	1	No TSS defined	5	Hs, Mm, Rn, Cl, Pt	1	Not changed	?
<i>Slit2</i>	GXP_1246669	XM_001513206	2	-121 to -37 bp	4	Hs, Mm, Rn, Pt	1	Lost expression	Activation
<i>Unc5c</i>	GXP_430782	AK138987	1	-420 bp	4	Hs, Mm, Bt, Pt	-	Ectopic induction	Repression
<i>Robo1</i>	GXP_1239247	‡	1	No TSS defined	4	Hs, Mm, Cl, Pt	1	Ectopic induction	Repression
<i>Nkx6-2</i>	GXP_70860	NM_183248	1	-267 bp	3	Mm, Rn, Pt	1	Ectopic induction	Indirect repression <sup>¶</sup>
<i>Pax7</i>	GXP_105702	NM_011039	1	-926 bp	2	Mm, Rn	1	Ectopic induction	Repression
<i>Pou4f1</i>	GXP_1238014	XM_001473425	7	-476 to -335 bp	2	Hs, Mm	1	Lost expression	Activation

The genes in the first column were ranked by the degree of conservation of predicted Nkx6-1 BSs across seven mammalian species. The higher the amount of conserved sites in an increasing number of orthologous promoter sequences, the higher the rank of the corresponding gene listed from top to bottom in the table.

\*Position relative to transcription start site (TSS).

<sup>†</sup>Hs, *Homo sapiens* (human); Mm, *Mus musculus* (mouse); Rn, *Rattus norvegicus* (rat); Cl, *Canis lupus* (dog); Bt, *Bos taurus* (cow); Ec, *Equus caballus* (horse); Pt, *Pan troglodytes* (chimpanzee).

<sup>‡</sup>No transcript assigned, predicted promoter from orthologs.

<sup>§</sup>Presumed activity based on *Nkx6-1*<sup>-/-</sup> midbrain phenotype.

<sup>¶</sup>Nkx6-1 and Nkx6-2 are not coexpressed at the relevant stages.