Table S1. List of in vivo Pitx3-regulated genes

Transcripts downregulated in E14.5 *Pitx3*-deficient mdDA neurons (*Pitx3*$^{-/-}$ versus *Pitx3*$^{+/+}$)

Non background corrected			
Gene symbol	BioSeq description	M-value	*P*-value
Slc18a2	Solute carrier family 18 (vesicular monoamine)	–0.37	0
Snca	Synuclein, alpha	–0.36	0
Tcf7l2	Transcription factor 7-like 2, T-cell specific, HMG-box	–0.32	0.01
Nr2f2	Nuclear receptor subfamily 2, group F, member 2	–0.25	0
Tubb2b	Tubulin, beta 2B	–0.23	0
Nhlrc2	NHL repeat containing 2	–0.2	0
Aldh1a1	Aldehyde dehydrogenase family 1, subfamily A1	–0.2	0
Gramd1a	GRAM domain containing 1A	–0.19	0.03
Hddc3	HD domain containing 3	–0.19	0
Tubb2c	Tubulin, beta 2C	–0.18	0.01
4833420G17Rik	RIKEN cDNA 4833420G17 gene	–0.17	0
Pi4k2a	Phosphatidylinositol 4-kinase type 2 alpha	–0.15	0.01
Lphn2	Latrophilin 2	–0.15	0.03
Crmp1	Collapsin response mediator protein 1	–0.15	0
Tubb2a	Tubulin, beta 2A	–0.15	0.01
Socs2	Suppressor of cytokine signaling 2	–0.14	0.02
AC102575.2		–0.14	0.04
Gsto1	Glutathione S-transferase omega 1	–0.12	0
2700078E11Rik	RIKEN cDNA 2700078E11 gene	–0.12	0
Usmg5	Upregulated during skeletal muscle growth 5	–0.12	0.01
AC142115.1	Putative uncharacterized protein fragment	–0.12	0
Cox15	COX15 homolog, cytochrome c oxidase assembly protein (yeast)	–0.11	0.05
Afp	Alpha fetoprotein	–0.11	0.03
Tmem130	Transmembrane protein 130	–0.1	0.01
Background corrected			
Gene symbol	BioSeq description	M-value	*P*-value
Snca	Synuclein, alpha	–2.55	0
Aldh1a1	Aldehyde dehydrogenase family 1, subfamily A1	–1.36	0
Slc6a3	Solute carrier family 6 (neurotransmitter transporter, dopamine), member 3	–1.03	0
Ttr	Transthyretin	–0.96	0.01
Afp	Alpha fetoprotein	–0.93	0

Transcripts upregulated in E14.5 *Pitx3*-deficient mdDA neurons (*Pitx3*$^{-/-}$ versus *Pitx3*$^{+/+}$

Non background corrected			
Gene symbol	BioSeq description	M-value	*P*-value
En2	Engrailed 2	0.8	0
En1	Engrailed 1	0.69	0
Cck	Cholecystokinin	0.42	0
Nts	Neurotensin	0.37	0
Spon1	Spondin 1, (f-spondin) extracellular matrix protein	0.31	0.03
Gbf1	Golgi-specific brefeldin A-resistance factor 1	0.3	0.05
Cbln1	Cerebellin 1 precursor protein	0.25	0
Slc32a1	Solute carrier family 32 (GABA vesicular transporter), member 1	0.22	0
Klf4	Kruppel-like factor 4 (gut)	0.21	0
Bloc1s2	Biogenesis of lysosome-related organelles complex-1, subunit 2	0.2	0
Olig1	Oligodendrocyte transcription factor 1	0.2	0
Slc6a4	Solute carrier family 6 (neurotransmitter transporter, serotonin), member 4	0.19	0.05
As3mt	Arsenic (+3 oxidation state) methyltransferase	0.18	0
Dlk1	Delta-like 1 homolog (Drosophila)	0.15	0.01
Tph2	Tryptophan hydroxylase 2	0.15	0.01
Glod5	Glyoxalase domain containing 5	0.14	0.01
Ociad1	OCIA domain containing 1	0.14	0.02
Pdgfra	Platelet derived growth factor receptor, alpha polypeptide	0.12	0.02

Nhedc2	Na+/H+ exchanger domain containing 2	0.12	0.01
Wls	Wntless homolog (Drosophila)	0.11	0.04
1500015O10Rik	RIKEN cDNA 1500015O10 gene	0.11	0.04
Background corrected			
Gene symbol	BioSeq description	M-value	*P*-value
Slc6a4	Solute carrier family 6 (neurotransmitter transporter, serotonin), member 4	1.27	0
En2	Engrailed 2	0.9	0
1500015O10Rik	RIKEN cDNA 1500015O10 gene	0.82	0
En1	Engrailed 1	0.81	0.01
2310002L09Rik	RIKEN cDNA 2310002L09 gene	0.75	0.02

The log differential-expression ratio (M-value) of differentially expressed genes in the mdDA area of E14.5 *Pitx3*$^{-/-}$ embryos compared with *Pitx3*$^{+/+}$ littermates with and without background correction (P<0.05, MAANOVA).