SUPPLEMENTARY TABLE 6.
Transcription factors in the developing ENS

Gene:	Online ISH resources:	IHC:	Current screen:	Reference/Comment:
Alx1*	N/D	**In the ENS Fig. 2A, 3A; S3, 4**	W11vsC11	
Arntl*	Few ENS cells, E14 **S2**		W11vsC11 S15vsW15 >2,4	
Ascl1 (Mash1)	ENS E11-15		W11vsC11 W15vsC15	In ENS, well-studied [1, 2]
***Atoh1** (Math1)*	Few ENS cells E15, **S2**		S11vsC11 S15vsC15	Comment: Function in other system[3]
Cux1*	N/D	**In the ENS Fig. 2A,C; S3, 4**	S15vsS11	
Cux2*	ENS E13-15 **S2**		S15vsC15 S15vsS11	Comment: Function in other neural crest derivative[4]
Dlx1	ENS E14		S11vsC11 S15vsC15	In the ENS [5]
Dlx2	ENS E11-15		S11vsC11 S15vsC15	In the ENS [5]
Dlx3*	ENS E14 **S2**		W15vsC15	
Dlx5	ENS E14 **S2**		S11vsC11 S15vsC15	ENS transcriptome [6]
Dlx6	ENS E14 **S2**		W11vsC11 W15vsC15	ENS transcriptome [7]
Dmrta1*	N/D		W11vsC11 S15vsC15 W15vsC15 S15vsC15 >1,5	
Ebf1*	N/D	**In the ENS Fig. 2A, 3B, C; S3, 4**	W15vsW11	
Ebf3	ENS E15	**In the ENS Fig. 2A, 3B; S3, 4**	W15vsW11 S11vsC11 S15vsC15	In the ENS [8]
Ebf4*	ENS E14 **S2**		S15vsS11 W15vsW11	
Egr1	N/D		S15vsS11	In the ENS[7]
Etv1 (Er81)	ENS E15	**In the ENS Fig. 2A,C, 3B,C; S3, 4**	W15vsW11 W15vsC15 W15vsS15	In the ENS[8]
***Etv5** (Erm)*	ENS E13-15 **S2**		W11vsC11 W11vsW15 S15vsW15	
Foxd1*	Many bowel cells, incl. ENS E11-14	**In the ENS Fig. 2A, 3B; S3, 4**	W11vsS11 W11vsW15 W11vsC11	Comment: Function in CNS[9]
Foxd3	ENS E11-13		S15vsW15 S11vsC11	In the ENS[7, 10]

Foxj2*	Few ENS cells, E13-15 **S2**		S15vsS11 W15vsW11	
Foxj3*	Few ENS cells, E15 **S2**		S15vsS11	
Foxn2*	Few ENS cells, E14-15 **S2**		S15vsW15 S11vsC11 S15vsC15	
Foxn3*	Few ENS cells, E15 **S2**		W15vsW11	
Foxo1	Few ENS cells E15, **S2**		S15vsW15 S15vsS11	ENS progenitors *in vitro*[11]
Foxo3	Few ENS cells E15, **S2**		S15vsS11	ENS progenitors *in vitro*[11]
Gatad2a*	ENS E14 **S2**		W11vsW15 S11vsS15	
Glis2*	Many gut cells, incl. ENS E14 **S2**		W11vsC11 S11vsC11 W11vsW15 >1,4	
Hand2	N/D		W11vsC11 W15vsC15	In the ENS, well-studied [12]
Hdx*	N/D	**In the ENS Fig. 2A, 3A; S3, 4**	S11vsW11 S15vsC15 W15vsC15	
Hlf*	Few ENS cells E15, **S2**		W15vsW11 W15vsS15	
Hmx1*	N/D	**In the ENS Fig. 2A, 3B; S3, 4**	W11vsW15	Comment: Function in other neural crest derivative[13]
Hmx2*	Few ENS cells E13-15, **S2**		S15vsC15	
Hmx3	Few ENS cells E15		S15vsC15	In the ENS[8]
Homez*	ENS E13-15 **S2**		W11vsW15	
Hoxa1*	N/D		S11vsS15 S15vsW15 W15vsC15 >1,35-1,5	
Hoxa2*	ENS E14-15 **S2**		W15vsC15	
Hoxa3*	N/D	**In the ENS Fig. 2A,E, 3A; S3, 4**	W15vsC15	
Hoxa4*	E14 **S2**		W15vsC15 W15vsW11 S15vsC15	
Hoxa5	ENS E14		W15vsC15	In the ENS[7, 8]
Hoxb2*	ENS E11-15 **Fig. 2D**		W11vsC11 W15vsC15	
Hoxb3	ENS E14-15	**In the ENS Fig. 2A,E, 3A; S3, 4**	W11vsC11 W15vsC15	Hoxb3 enhancer traced in the ENS[14]

Hoxb4*	ENS E13-15 **S2**		W11vsC11 W15vsC15	
Hoxb5	ENS, E11-15		W15vsC15 W15vsW11 W15vsS15	In the ENS[15, 16] HSCR locus
Hoxb6	Few ENS cells E14-15 **Fig. 2D**		W15vsC15 W15vsW11 W15vsS15	ENS transcriptome[8]
Hoxb8*	Few ENS cells E14-15 **Fig. 2D**		W15vsW11	
Hoxc4*	N/D	**In the ENS Fig. 2A,E; S3, 4**	W15vsC15 W15vsS15 W15vsW11	
Hoxc5*	N/D	**In the ENS Fig. 2A,E; S3, 4**	W15vsW11	
Hoxd1*	E15 **S2**		S11vsC11 W15vsC15 S15vsC15	
Hoxd3*	ENS, E14-15 **Fig. 2D**		W11vsC11 W15vsW11	
Hoxd4	ENS E11-15		W15vsW11	In the ENS[15]
Jarid2	ENS E14 **S2**		W11vsC11 W15vsC15	ENS transcriptome[8]
Jazf1*	Few ENS cells E15 **S2**		W15vsC15 W15vsS15 S15vsC15 W15vsW11	
Klf6*	ENS E11-14 **S2**		S15vsS11 S11vsC11	
Klf7	ENS E11-E15	**In the ENS Fig. 2A, 3A, C; S3, 4**	W15vsS15 W15vsW11 W11vsC11	ENS transcriptome [8] Comment: Function in other system[17]
Lbh*	ENS E11 **S2**		S11vsC11 W11vsC11 W11vsW15 >1,3-1,5	Comment: Wnt signaling pathway[18]
Lef1*	general gut E11		S11vsC11 S11vsS15 W11vsW15 >1,7-2,5	Comment: Wnt signaling pathway
Mef2c*	ENS E14	**In the ENS Fig. 2A,C; S3, 4**	S15vsW15 S15vsC15 S11vsC15	Comment: Function in CNS[19]
Meis2*	General gut incl.d ENS E11-15	**In the ENS Fig. 2A,C, 3B,C; S3, 4**	W11vsW15	
Myc*	ENS E14 **S2**		S15vsW15 S11vsC11 S11vsS15	In the adult ENS[20]
Mycn*	ENS E14 **S2**		S15vsC15 S11vsC11 S11vsS15	Comment: Function in CNS[21]
Myt1	Many ENS cells E11-15		S11vsC11 S15vsC15 W15vsW11	In the ENS[7] Comment: Function in CNS[22]

Myt1l*	ENS E13-15 **S2**		S11vsC11 S15vsC15 W15vsS15	Comment: Function in CNS[22]
Nr2f1	General gut E11		W11vsS11 S11vsS15 S15vsW15	In the ENS[23]
NeuroD1	N/D		W11vsW15 W11vsS11 C15vsW15	In the ENS[7]
NeuroD4*	N/D	**In the ENS Fig. 2A, 3A; S3, 4**	W11vsC11 W15vsC15 W11vsW15	
Onecut2*	ENS E13-15	**In the ENS Fig. 2A, 3A; S3, 4**	W15vsW11 W15vsS15 S11vsC11	Comment: Function in CNS[24]
Patz1*	ENS E13-15 **S2**		W11vsW15 W15vsC15	
Pax3*	N/D	**In the ENS Fig. 2A; S3, 4**	S11vsC11 W11vsC11	$Pax3^{-/-}$ mutant display ENS defects Not previously described in the ENS. [25]
Phox2a	ENS E11-15		S15vsS11	In the ENS, well-studied[26]
Phox2b	ENS E11-15		W11vsC11 W15vsC15	In the ENS, well-studied[26]
Pbx2*	ENS E11-14 **S2**		S11vsS15 W11vsW15	
Pbx3	Few ENS cells E13-15	**In the ENS Fig. 2A, 3B; S3, 4**	W15vsS15 W15vsW11 W15vsC15	In the ENS[27]
Pknox1*	ENS E15 **S2**		S15vsS11 W15vsW11	
Runx1*	ENS E13-15 **S2**		W15vsW11	Comment:Function in other neural crest derivative[28]
Satb1	ENS E13-15	**In the ENS Fig. 2A,C, 3B,C; S3, 4**	S15vsS11 W11vsC11 W15vsC15	ENS transcriptome[8]
Satb2*	ENS E15	**In the ENS Fig. 2A, 3B; S3, 4**	S15vsS11 W15vsW11 W11vsS11	
Sox2	ENS E11-15		S11vsC11 S15vsC15	In $Sox10^{+}$ cells[8, 29]
Sox4*	ENS E13-15	**In the ENS Fig. 2A,D, 3A; S3, 4**	W11vsC11 S11vsC11 W15vsC15	
Sox5	ENS E11-15	**In the ENS Fig. 2A,D; S3, 4**	S11vsC11 W11vsW15 S15vsW15	ENS transcriptome[30]
Sox6*	N/D	**In the ENS Fig. 2A,D, 3B,C, 4**	S15vsS11	
Sox8	ENS E11-15		S11vsC11 S15vsC15	In $Sox10^{+}$ cells[31]
Sox9*	N/D	**In the ENS Fig. 2A,D, 3A;**	W11vsW15 S11vsS15	

		S3, 4		
Sox10	ENS E11-15		S11vsC11 W11vsW15 S11vsW11	In ENS progenitors[32]
Sox11*	ENS E13	**In the ENS Fig. 2A,D, 3A; S3, 4**	W15vsC15 S15vsC15	
St18	N/D		S15vsW15 S11vsC11 S15vsC15 >1,3-7,2	ENS transcriptome[30] Function in CNS[22]
Tbx2	ENS E11-13 **S2**		S11vsC11 S15vsC15	ENS transcriptome[8]
Tbx3	ENS E11-15	**In the ENS Fig. 2A,C, 3A; S3, 4**	W15vsW11 W15vsC15 W11vsC11	In the ENS[7, 8]
Tbx20*	ENS E11-15 **S2**		S11vsC11 S15vsC15 S11vsS15 >1,6-1,8	Comment: Function in CNS differentiation[33]
Tcf4	ENS E11-15 **S2**		W11vsC11 W15vsC15 W15vsW11	ENS transcriptome[8] HSCR locus[34]
Tcf7l2*	ENS E15 **S2**		W15vsS15 S15vsS11	
Tcf12*	ENS E14 **S2**		S15vsC15	
Tcf21	ENS E14 **S2**		S11vsS15 C15vsW15 C11vsW11	ENS transcriptome[8]
Tcf25*	ENS E11-15 **S2**		S11vsC11 W11vsC11	
Tlx2	ENS E11-15		S15vsC15 W15vsC15	In the ENS, well-studied[35]
Tlx3*	ENS E13-15	**In the ENS Fig. 2A, 3A; S3, 4**	S15vsC15	Comment: Function in other neural crest derivative[13]
Tshz1*	ENS E11-15 **S2**		S15vsS11 S11vsC11	
Tshz3*	N/D	**In the ENS Fig. 2A, 3B; S3, 4**	W15vsS15 W15vsW11	
Zeb1*	N/D	**In the ENS Fig. 2A,C, 3A; S3, 4**	S15vsS11 W15vsW11	
Zeb2	ENS E11-15		W11vsC11 S11vsC11 W11vsW15	In ENS HSCR locus[36, 37]
Zfhx2*	ENS E13-15 **S2**		W11vsC11 W15vsW11	
Zfhx4*	ENS E11-15	**In the ENS Fig. 2A,C, 3A; S3, 4**	W15vsW11	
Zfp7*	ENS E14 **S2**		W11vsC11 W15vsC15	
Zfp113*	ENS E14		W15vsC15	

	S2		S15vsC15	
Zfp184*	ENS E14 **S2**		W15vsC15 S15vsC15	
Zfp191*	ENS E13-15 **S2**		W11vsC11 W15vsC15 S15vsC15	
Zfp462*	ENS E14 **S2**		W15vsC15 S15vsC15	
Zfp647*	ENS E14 **S2**		W15vsC15 S15vsC15	
Zfp689	ENS E14 **S2**		W11vsC11 W15vsC15	
Zhx3*	ENS E14 **S2**		S15vsS11 W15vsW11	
Zik1*	ENS E14 **S2**		W15vsC15 S15vsC15 S11vsS15	
Zkscan1*	ENS E15 **S2**		W11vsC11 W15vsC15	

Supplementary Table 6. Up-to date list of transcription factors identified in the developing ENS.

*: genes previously not described in the developing mouse ENS. Expression was confirmed by IHC and/or convincing staining in online expression resources (bold black text). Enrichment in enteric populations of >2 and/or significant enrichment in at least 3 enteric populations were also considered as validation when quality was suboptimal in Online Expression Resources. Online ISH Resources = Allen Brain Atlas and GenePaint. ISH= *In situ* Hybridisation; IHC= Immunohistochemistry; S: Supplementary Figure; N/D: no (or suboptimal) data.

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