

Table S3. Positive gene lists for coexpression network construction and decomposition via TF-Cluster (Nie et al. *BMC Systems Biology* 2011, **5**:53)

Original Table 1: TF cluster identified with pluripotency of human embryonic stem cells

Genes	Symbol	Description	Evidence
Cluster 1: A cluster of TFs control pluripotency renewal of human stem cells			
NM_024865	NANOG	Nanog homeobox	(BOYER <i>et al.</i> 2005)
BC099704	NANOGP8	Nanog homeobox pseudogene 8	Pseudogene with similarity to Nanog.
NM_003106	SOX2	SRY box 2	(BOYER <i>et al.</i> 2005)
NM_002701	POU5F1	POU class 5 homeobox 1	(BOYER <i>et al.</i> 2005)
NM_006892	DNMT3B	DNS methyltransferase 3 beta	(AASEN <i>et al.</i> 2008; GOPALAKRISHNAN <i>et al.</i> 2009)
NM_080618	CTCF	CCCTC-binding factor-like	(MONK <i>et al.</i> 2008)
NM_016089	ZNF589	Zinc finger 589	(GIORGETTI <i>et al.</i> 2009; GREBER <i>et al.</i> 2007)
NM_004426	PHC1	Polyhomeotic homolog 1	(GIULIANO <i>et al.</i> 2005)
NM_005407	SALL2	SAL2 like	(GIORGETTI <i>et al.</i> 2009)
NM_004427	PHC2	Polyhomeotic homolog 2	(ISONO <i>et al.</i> 2005)
NM_032805	ZFP206	Zinc finger protein 206 (ZSCAN10)	(WANG <i>et al.</i> 2007; YU <i>et al.</i> 2009)
NM_003325	HIRA	HIR Histone Cell Cycle regulator	(ZWAKA 2006)
BC098403	ETV1	ETS variant 1	(FOUSE <i>et al.</i> 2008; LOH <i>et al.</i> 2006)
NM_006079	CITED2	Cbp/p300-interacting transactivator	(KRANC <i>et al.</i> 2003; KRANC <i>et al.</i> 2009)
NM_006074	TRIM22	Tripartite motif-containing 22	(GREBER <i>et al.</i> 2007)
XM_929986	LOC653441	Similar to polyhomeotic 1-like	Gene with sequence similarity to PHC1
Cluster 22: A cluster of TFs control neural development in earlier differentiation of human stem cells			
BC008687	NEUROG1	Neurogenin 1	(HIRABAYASHI <i>et al.</i> 2004)
NM_006161	NEUROG1	Neurogenin 1	(HIRABAYASHI <i>et al.</i> 2004)
NM_033178	DUX4	Double homeobox 4	(BOSNAKOVSKI <i>et al.</i> 2009)
NM_006732	FOSB	FBJ oncogene homolog B	(KELZ and NESTLER 2000)
NM_003317	TITF1	NK2 homeobox 1	(GARCIA-BARCELO <i>et al.</i> 2007)
NM_002478	MYOD1	myogenic differentiation 1	(DAUBAS <i>et al.</i> 2009; DAUBAS <i>et al.</i> 2000)
NM_006192	PAX1	Paired box 1	(JOOSTEN <i>et al.</i> 2005)
NM_002700	POU4F3	POU class 4 homeobox 3	(VAHAVA <i>et al.</i> 1998)
BC10493	POU4F3	POU class 4 homeobox 3	(VAHAVA <i>et al.</i> 1998)
Cluster 17: A cluster of TFs control differentiation towards multiple directions in human stem cells			
NM_001002295	GATA3	GATA binding protein 3	Trophectoderm (HOME <i>et al.</i> 2009)
NM_012258	HEY1	Hairy/enhancer-of-split related with YRPW motif 1	Trophectoderm (XU 2006)
NM_032638	GATA2	GATA binding protein 2	Trophectoderm (MA <i>et al.</i> 1997)
NM_030379	GLI2	GLI family zinc finger 2	Mesoderm (BUTTITTA <i>et al.</i> 2003)
NM_017410	HOXC13	Homeobox C13	Ectoderm (GODWIN and CAPECCHI 1999)
NM_002202	ISL1	ISL LIM homeobox 1	Mesoderm (CAI <i>et al.</i> 2003)
NM_005461	MAFB	v-maf musculoaponeurotic fibrosarcoma oncogene homolog B (avian)	Neural (STURGEON <i>et al.</i>)
NM_002449	MSX2	Msh homeobox 2	Mesoderm (BRUNELLI and COSSU 2005)
NM_175747	OLIG3	Oligodendrocyte transcription factor 3	Neural (FILIPPI <i>et al.</i> 2005)
NM_006099	PIAS3	Protein inhibitor of activated STAT, 3	Neural (ONISHI <i>et al.</i> 2009)
NM_019854	PRMT8	Protein arginine methyltransferase 8	Neural (LEE <i>et al.</i> 2005)
NM_030567	PRR7	Proline rich 7 (synaptic)	(MURATA <i>et al.</i> 2005)
NM_003068	SNAI2	Snail homolog 2 (Drosophila)	Neural Crest (STEGMANN <i>et al.</i> 1999)
NM_031439	SOX7	SRY (sex determining region Y)-box 7	Endoderm (Parietal) (FUTAKI <i>et al.</i> 2004)
NM_007129	ZIC2	Zic family member 2 (odd-paired homolog, Drosophila)	Neural (ELMS <i>et al.</i> 2003)

Original Table 2. Cluster 1, 2, 5, 7 and 19 identified from salt stress data of Arabidopsis roots containing root growth and development (Nie et al 2011)

Gene	Symbol	Description	Evidence
Cluster 1: A TF cluster controlling the root hair growth			
AT5G58010	LRL3	Root hairless1	(KARAS <i>et al.</i> 2009)
AT5G19790	RAP2.11	Ethylene response factor controlling root growth	(JUNG <i>et al.</i> 2007)
AT1G27740	RSL4	Postmitotic cell growth in root-hair cells	(YI <i>et al.</i> 2010)
AT1G66470	RHD6	Early root hair formation	(MENAND <i>et al.</i> 2007; SINGH <i>et al.</i> 2008)
AT5G25810	TINY	ERF/AP2 TF control cell expansion in root	(WILSON <i>et al.</i> 1996)
AT2G28160	FRU	Regulates iron uptake responses in outer cells of root	(JAKOBY <i>et al.</i> 2004; YUAN <i>et al.</i> 2005)
Cluster 2: A cluster of TFs control root cap development (stem cells of roots)			
AT1G33280	BRN1	BRN1, SMB control root cap maturation	(BENNETT <i>et al.</i> 2010)
AT4G10350	BRN2	BRN2, SMB control root cap maturation	(BENNETT <i>et al.</i> 2010)
AT1G79580	SMB	FEZ and SMB control root stem cells	(WILLEMSSEN <i>et al.</i> 2008)
AT5G39820	ANAC094	Apical meristem protein, function unknown	(YI <i>et al.</i> 2010)
AT1G26870	FEZ	FEZ and SMB control root stem cells in cap	(WILLEMSSEN <i>et al.</i> 2008)
AT1G74500	TOM7	Embryonic root initiation	(SCHLERETH <i>et al.</i> 2010)
AT3G27010	TCP20	Postembryonic cell division in root	(LI <i>et al.</i> 2005)
AT2G30340	LBD13	Expressed in cells at the adaxial base of lateral roots	(SHUAI <i>et al.</i> 2002)
AT2G40470	LBD15	Expressed in cells at the adaxial base of lateral roots	(SHUAI <i>et al.</i> 2002)
AT1G51190	PLT2	Control root stem cell activity near cap	(ZHOU <i>et al.</i> 2010)
AT1G66350	RGL1	Root epidermal differentiation	(GAN <i>et al.</i> 2007)
AT2G37260	TTG2	Differentiation of trichomes and root hairless cells	(ISHIDA <i>et al.</i> 2007)
AT5G57420	IAA33	IAA is involved in root development	(KARES <i>et al.</i> 1990; PETERSSON <i>et al.</i> 2009)
Cluster 5: A cluster of TFs control root vascular development, second wall growth development			
AT1G71930	VND7	Regulates xylem vessel formation	(KUBO <i>et al.</i> 2005)
AT5G12870	MYB46	Target of SND1, control second wall biosynthesis	(ZHONG <i>et al.</i> 2007)
AT1G01780	LIM	LIM domain-containing protein	
AT1G12260	VND4	Switches for protoxylem and metaxylem vessel formation	(KUBO <i>et al.</i> 2005)
AT1G17950	MYB52	Second wall growth	(ZHONG <i>et al.</i> 2008)
AT1G63910	MYB103	Second wall growth	(ZHONG <i>et al.</i> 2008)
AT1G66230	MYB20	Second wall growth	(ZHONG <i>et al.</i> 2008)
AT1G68810	bHLH	Root vascular initial	(OHASHI-ITO and BERGMANN 2007)
AT1G73410	MYB54	Second wall growth	(ZHONG <i>et al.</i> 2008)
AT2G39830	DAR2	DA-1 related, control organ size	(LI <i>et al.</i> 2008)
AT2G45420	LBD18	Lateral root and tracheary element formation	(LEE <i>et al.</i> 2009)
AT3G21270	ADO2	Early stages of vascular development	(GARDINER <i>et al.</i> 2010)
AT4G00220	JLO	A central regulator of auxin distribution and signaling in root	(BUREAU <i>et al.</i> 2010)
AT4G28500	SND2	Vascular cell differentiation	(GRANT <i>et al.</i> 2010)
AT5G66610	DAR7	DA-1 related, control organ size	(LI <i>et al.</i> 2008)
Cluster 7: A cluster of TFs that controlling root cell cycle & growth			
AT5G24330	AtXR6	Cell cycle regulation of late G1 to S phase	(RAYNAUD <i>et al.</i> 2006)
AT3G01330	DEL3	Cyclin D/retinoblastoma/E2F pathway	(SOZZANI <i>et al.</i> 2009)
AT2G22840	AtGRF1	Growth factor expressed in root	(KIM <i>et al.</i> 2003; KIM and KENDE 2004)
AT2G36400	AtGRF3	Growth factor expressed in root	(KIM <i>et al.</i> 2003; KIM and KENDE 2004)
AT4G37740	AtGRF2	Growth factor expressed in root	(KIM <i>et al.</i> 2003; KIM and KENDE 2004)
AT3G50870	MNP	GATA transcription factor	(OHASHI 2006)
AT1G34355	PS1	Parallel spindle 1 involved in meiosis	(D'ERFURTH <i>et al.</i> 2008)
AT4G23800	HMG1/HMG2	High mobile group 1, 2	(MENGES <i>et al.</i> 2002)
Cluster 19: A cluster of TFs control drought stress in response to ABA			
AT2G46270	GBF3	induced by ABA under water deprivation	(SEHNKE <i>et al.</i> 2005)
AT3G19290	ABF4	Regulate ABRE-dependent ABA signaling involved in drought stress	(YOSHIDA <i>et al.</i> 2010)
AT1G51140	bHLH	Drought stress	(RIZHSKY <i>et al.</i> 2004)
AT1G52890	ANAC019	Bind to drought-responsive cis-element in response to ABA	(JIANG <i>et al.</i> 2009; TRAN <i>et al.</i> 2004)
AT1G73730	EIL3	Ethylene signaling	(BINDER <i>et al.</i> 2007)
AT2G46680	ATHB7	Growth regulator in response to ABA	(OLSSON <i>et al.</i> 2004)

AT3G61890	ATHB12	Growth regulator in response to ABA	(OLSSON <i>et al.</i> 2004)
AT4G21440	MYB102	ABA-induced protein	(LEONHARDT <i>et al.</i> 2004)
AT4G25480	DREB1A	Drought stress genes responsive to ABA	(RIECHMANN <i>et al.</i> 2000) (LIU <i>et al.</i> 1998)
AT4G27410	RD26	Transcriptional activator in ABA-mediated dehydration response	(TRAN <i>et al.</i> 2004)
AT4G34000	ABF3	Regulate ABRE-dependent ABA signaling involved in drought stress	(Yoshida <i>et al.</i> 2010)
AT5G47640	NF-YB2	NF-YB2 (NUCLEAR FACTOR Y, SUBUNIT B2); transcription factor	(KUMIMOTO <i>et al.</i> 2011)
AT2G18550	HB-2	DNA binding / transcription factor	(SON <i>et al.</i> 2005)
AT1G77200	DREBA4	DREB subfamily A-4 of ERF/AP2 transcription factor	(RIECHMANN <i>et al.</i> 2000)

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