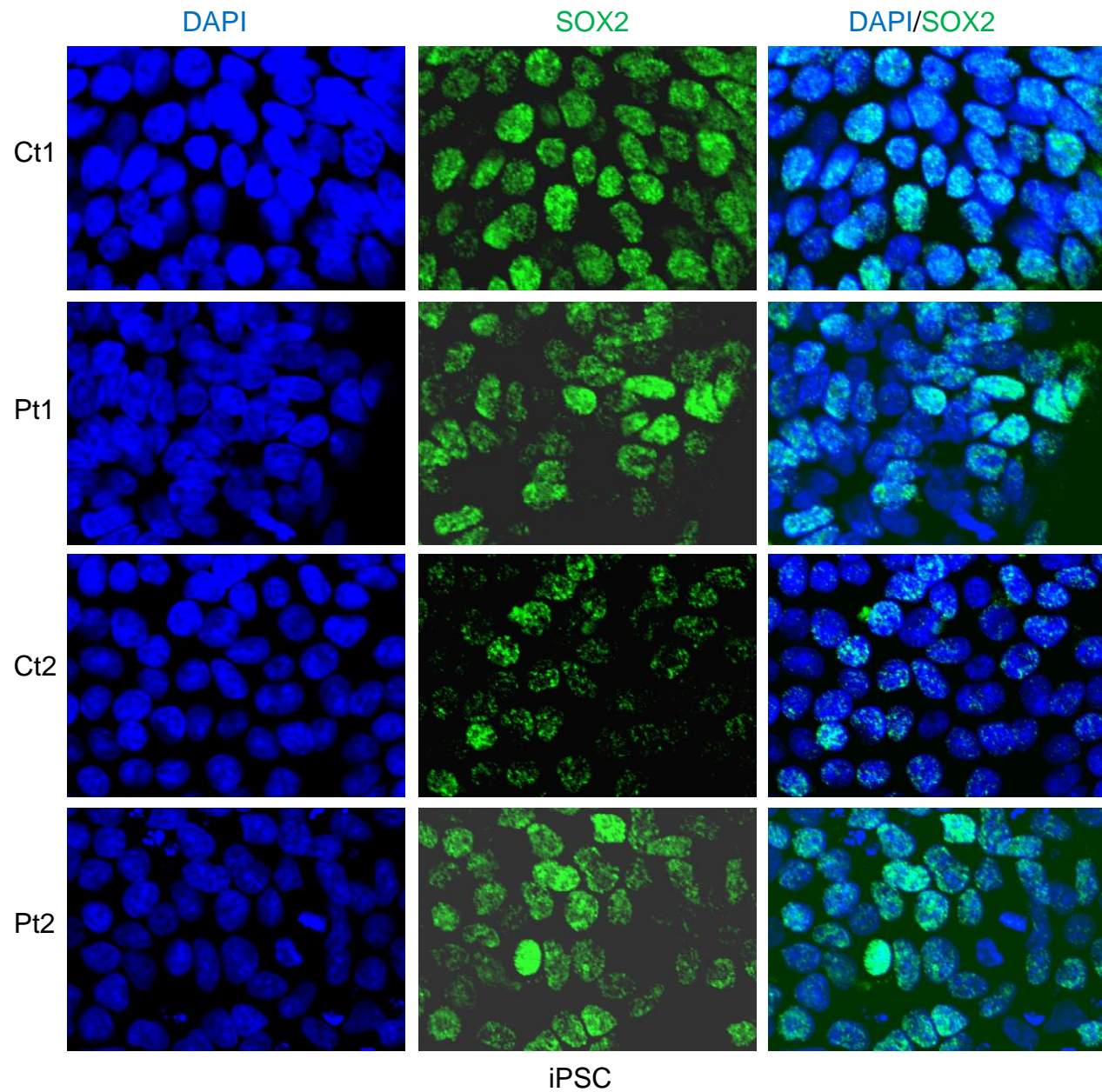


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ENSG00000234745	HLA-B	major histocompatibility complex, class I, B	-6.105925	1.50E-13	7.99E-10	10	darkturquoise
ENSG00000188487	INSC	INSC, spindle orientation adaptor protein	-4.250442	8.18E-10	2.81E-07	8	darkturquoise
ENSG00000157601	MX1	MX dynamin like GTPase 1	-3.274864	1.73E-11	2.51E-08	18	darkturquoise
ENSG00000115665	SLC5A7	solute carrier family 5 member 7	-3.151444	5.46E-10	2.48E-07	2	royalblue
ENSG00000111335	OAS2	2'-5'-oligoadenylate synthetase 2	-3.063191	2.19E-07	1.06E-05	7	darkturquoise
ENSG00000089127	OAS1	2'-5'-oligoadenylate synthetase 1	-3.011778	1.70E-09	4.62E-07	11	darkturquoise
ENSG00000187608	ISG15	ISG15 ubiquitin-like modifier	-2.856704	6.49E-14	5.18E-10	3	darkturquoise
ENSG00000163064	EN1	engrailed homeobox 1	-2.769127	2.19E-10	1.51E-07	2	royalblue
ENSG00000111331	OAS3	2'-5'-oligoadenylate synthetase 3	-2.750136	6.17E-10	2.59E-07	7	darkturquoise
ENSG00000185585	OLFML2A	olfactomedin like 2A	-2.686831	2.42E-09	5.68E-07	3	royalblue
ENSG00000130303	BST2	bone marrow stromal cell antigen 2	-2.508783	6.82E-09	1.11E-06	3	darkturquoise
ENSG00000095596	CYP26A1	cytochrome P450 family 26 subfamily A member 1	-2.485809	7.20E-10	2.73E-07	6	darkturquoise
ENSG00000126709	IFI6	interferon alpha inducible protein 6	-2.445744	3.61E-15	5.76E-11	3	darkturquoise
ENSG00000185745	IFIT1	interferon induced protein with tetratricopeptide repeats 1	-2.286596	8.43E-12	1.35E-08	2	royalblue
ENSG00000168875	SOX14	SRY-box 14	-2.276696	1.81E-07	9.32E-06	1	darkturquoise
ENSG00000162367	TAL1	TAL bHLH transcription factor 1, erythroid differentiation factor	-2.204478	1.83E-08	2.09E-06	6	darkturquoise
ENSG00000244405	ETV5	ETS variant 5	-2.196398	4.38E-09	8.12E-07	14	darkturquoise
ENSG00000145242	EPHA5	EPH receptor A5	-1.950151	4.77E-12	1.09E-08	6	blue
ENSG00000119917	IFIT3	interferon induced protein with tetratricopeptide repeats 3	-1.830613	3.20E-09	6.54E-07	2	darkturquoise
ENSG00000154162	CDH12	cadherin 12	-1.792625	1.66E-07	8.74E-06	8	darkturquoise
ENSG00000119922	IFIT2	interferon induced protein with tetratricopeptide repeats 2	-1.602502	6.42E-06	0.00012146	3	darkgreen
ENSG00000146013	GFRA3	GDNF family receptor alpha 3	-1.505017	1.75E-06	4.69E-05	2	darkturquoise
ENSG00000040731	CDH10	cadherin 10	-1.503027	7.77E-10	2.81E-07	4	darkturquoise
ENSG00000082397	EPB41L3	erythrocyte membrane protein band 4.1 like 3	-1.450606	3.65E-11	4.16E-08	36	darkturquoise
ENSG00000167178	ISLR2	immunoglobulin superfamily containing leucine rich repeat 2	-1.288987	2.00E-07	1.01E-05	12	darkturquoise
ENSG00000198797	BRINP2	BMP/retinoic acid inducible neural specific 2	-1.231636	0.0008689	0.00386602	3	darkturquoise
ENSG00000149571	KIRREL3	kirre like nephrin family adhesion molecule 3	-1.220109	2.16E-08	2.34E-06	9	darkturquoise
ENSG00000213928	IRF9	interferon regulatory factor 9	-1.212617	2.35E-06	5.90E-05	15	darkturquoise
ENSG00000120049	KCNIP2	potassium voltage-gated channel interacting protein 2	-1.172459	3.39E-06	7.64E-05	14	darkturquoise
ENSG00000254245	PCDHGA3	protocadherin gamma subfamily A, 3	-1.148602	0.0003724	0.00205432	3	darkturquoise
ENSG00000115415	STAT1	signal transducer and activator of transcription 1	-1.087111	4.88E-10	2.36E-07	12	royalblue
ENSG00000159899	NPR2	natriuretic peptide receptor 2	-0.659034	9.13E-07	2.92E-05	6	darkturquoise
ENSG00000080815	PSEN1	presenilin 1	-0.109012	0.1075402	0.1762206	25	darkturquoise

Supplementary Table 1.

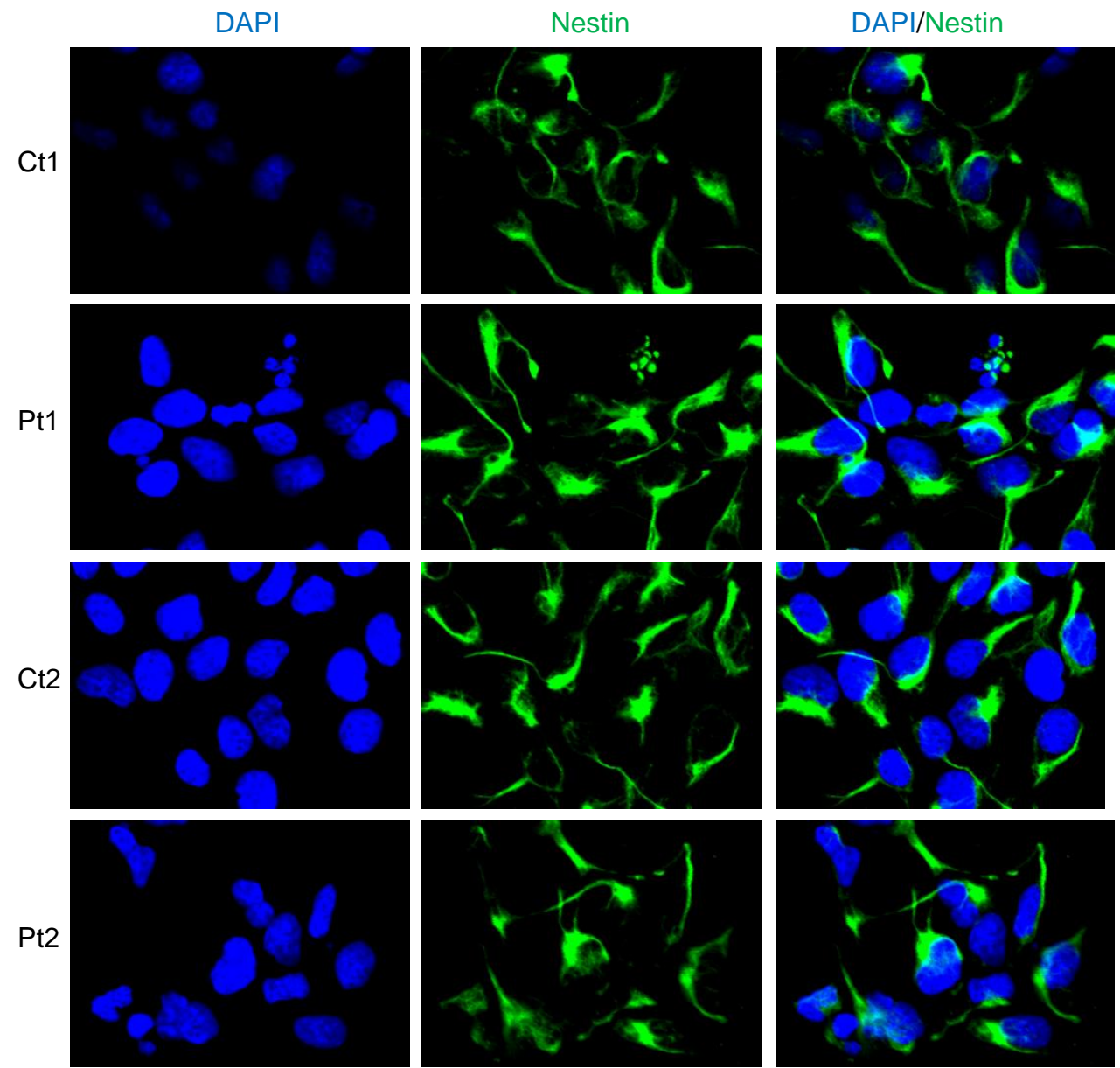
Transcripts down regulated in patient cells	Function	Phenotypes in human/animal models	Reference
BRINP2	Neurodevelopment; neural cell proliferation; bone morphogenesis	Behavioral defects in mice	(Berkowicz et al., 2016)
CDH10	Autism-spectrum Disorder-like	Cell Adhesion	(Wang et al., 2009)
CDH12	Schizophrenia	Cell Adhesion	(Redies et al., 2012)
<u>ETV5</u>	Neuronal transcription factor;	Development of hippocampal neurons	(Fontanet et al., 2018) (Williams et al., 2016) (Liu et al., 2016)
GFRA3	Receptor for GFR α 3/GDNF	Development of axonal projections	PNAS (Souza et al., 2010) (Schaller et al., 2017)
ISLR2	Receptor for LRR	Forebrain development; axon routing	(Abudureyimu et al., 2018) (Panza et al., 2015)
KCNIP2	Ion channel subunit;	Homeostasis in hippocampal neurons; susceptibility to epilepsy; Ca ²⁺ transient	(Wang et al., 2013) (Nassal et al., 2017)
KIRREL3	Cell adhesion; synaptic adhesion	Intellectual disability gene; autism, Jacobsen's syndrome	(Martin et al., 2015) (Bhalla et al., 2008) (Guerin et al., 2012)
<u>NR4A2</u>	Orphan receptor	Parkinson's, Alzheimer's	(Moon et al., 2019)
RET	RET Tyr kinase signaling	Hirschsprung's disease	(Tomuschat et al., 2015)
<u>SOX14</u>	Cerebello-olivary projections	Cerebellar functions	(Prekop et al., 2018)
<u>TAL1</u>	bHLH transcription factor	GABAergic neurogenesis; Post mitotic neuronal features	(Achim et al., 2013; Lee et al., 2017)
NPR2	natriuretic peptide receptor 2	synaptic connections between axons; axon bifurcation	(Lu et al., 2014; Ter-Avetisyan et al., 2018)
DMC1	Rec A homolog	<i>neuronal</i> survival and differentiation	(Rivera et al., 2015)
EN1	Homeobox transcription factor	Cerebellar development	(Martinez et al., 2013; Orvis et al., 2012)

Supplementary Table 2



iPSC

Fig. S1A



NSC

Fig. S1B

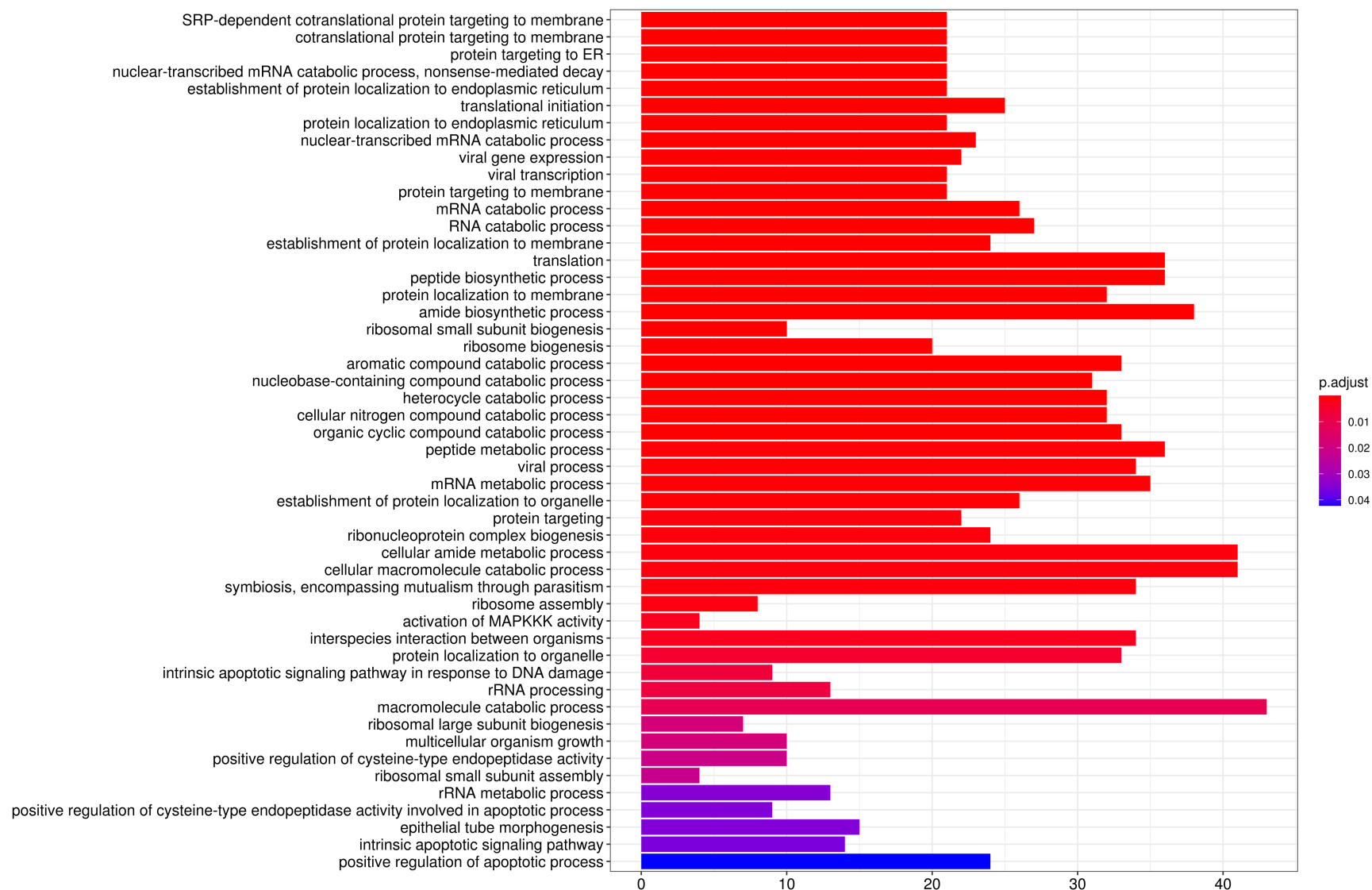


Fig. S2A

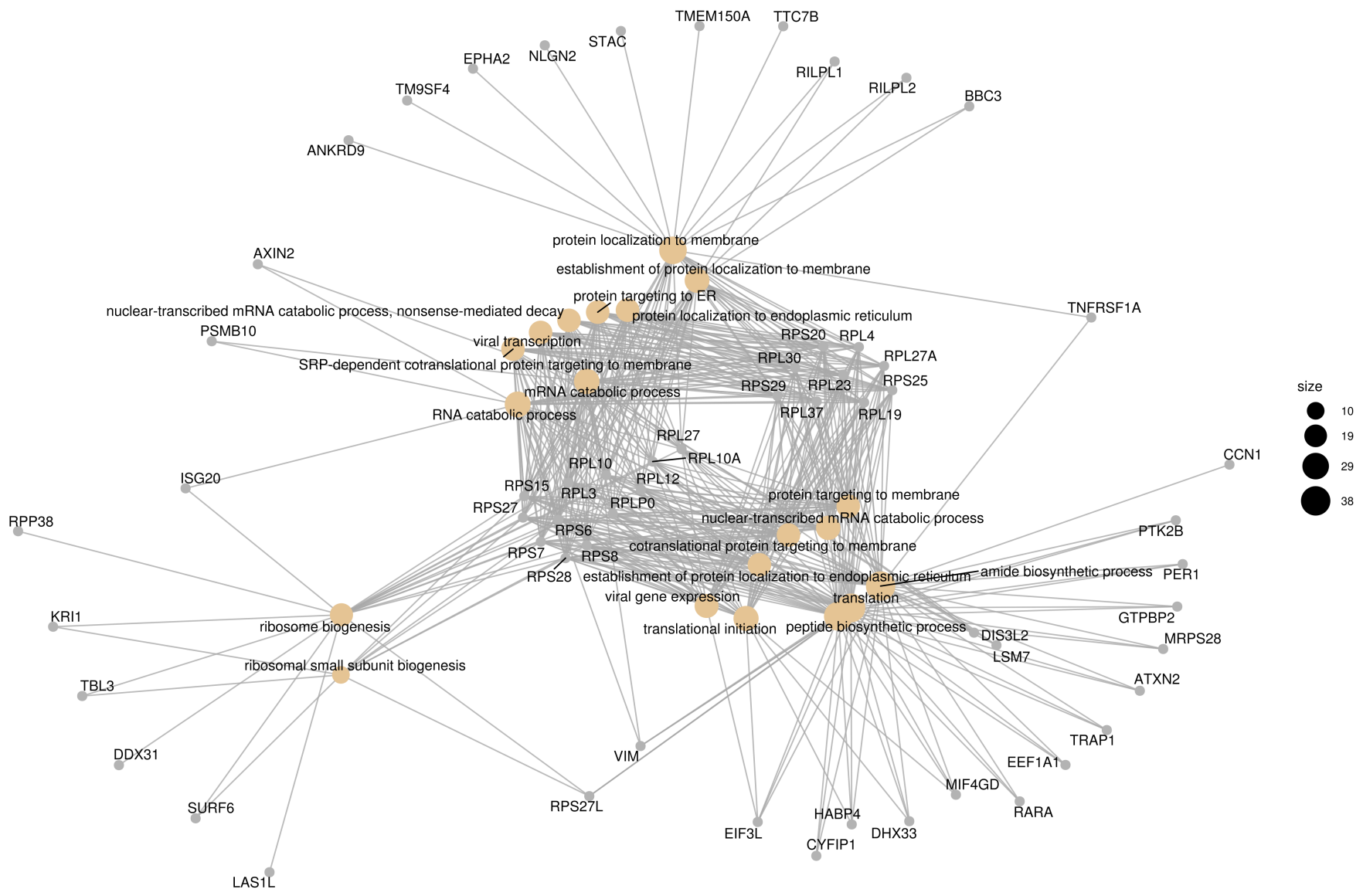


Fig. S2B

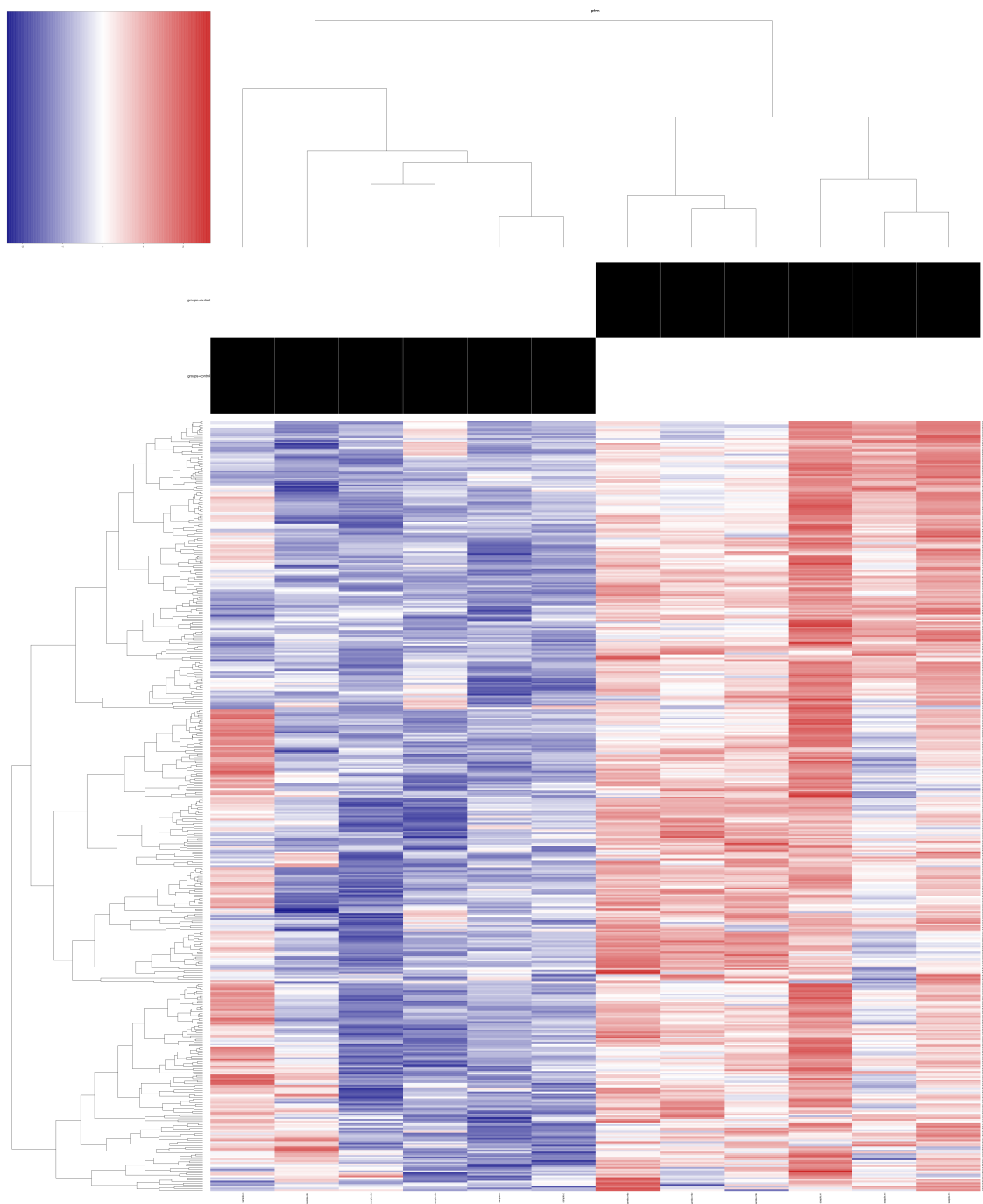


Fig. S2C

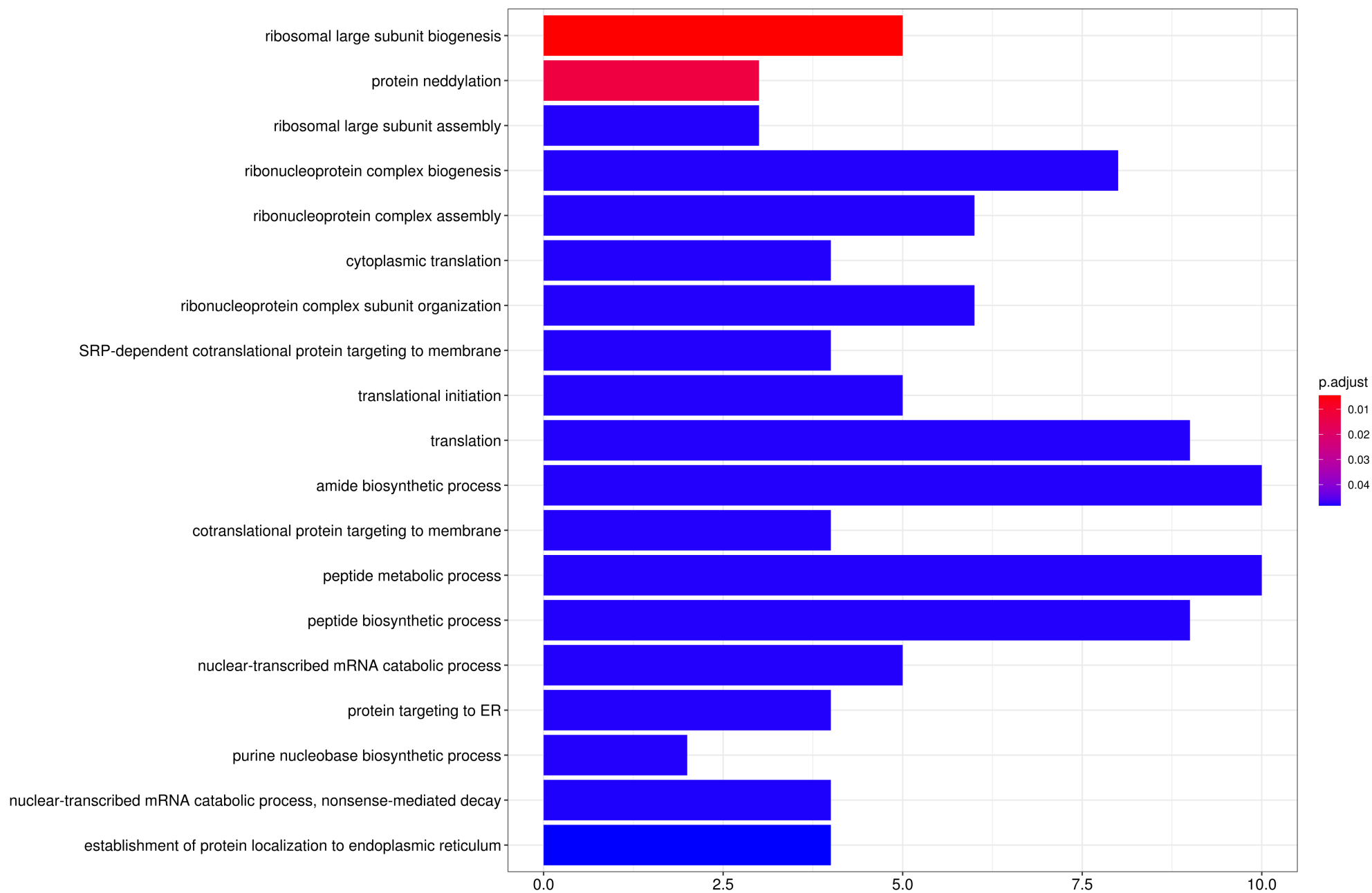


Fig. S3A

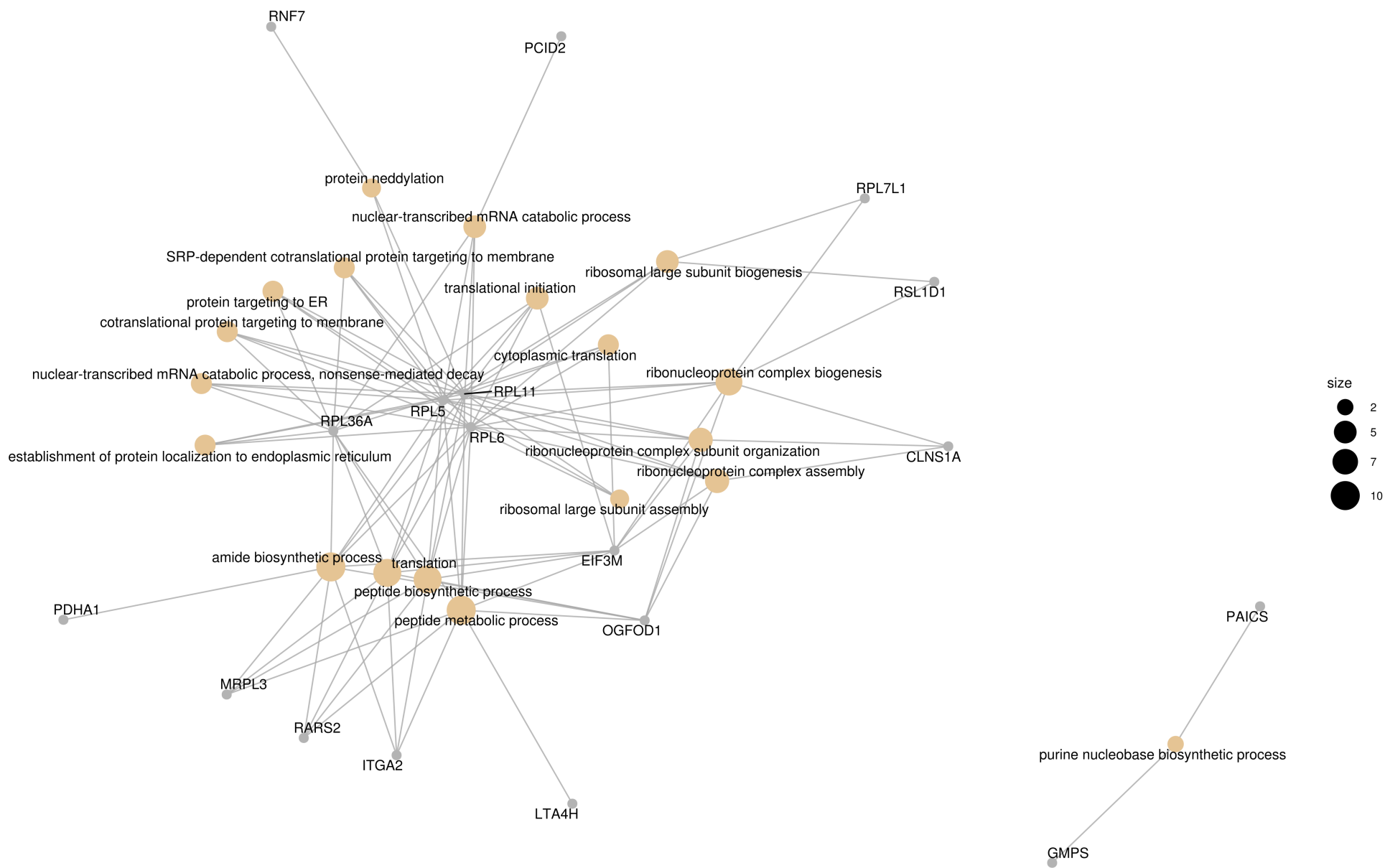
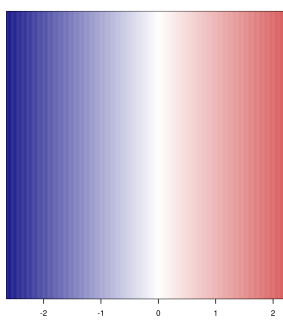
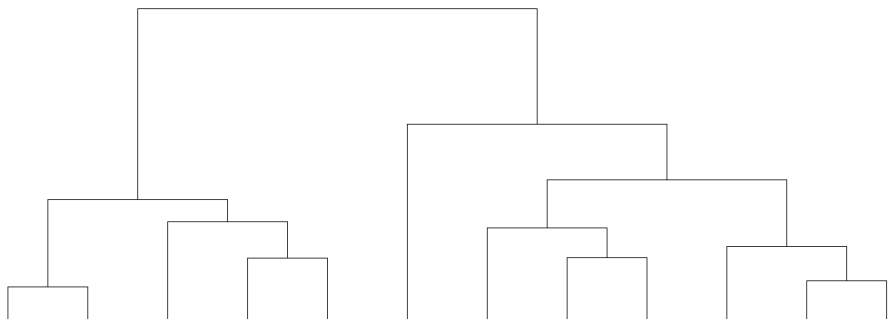


Fig. S3B



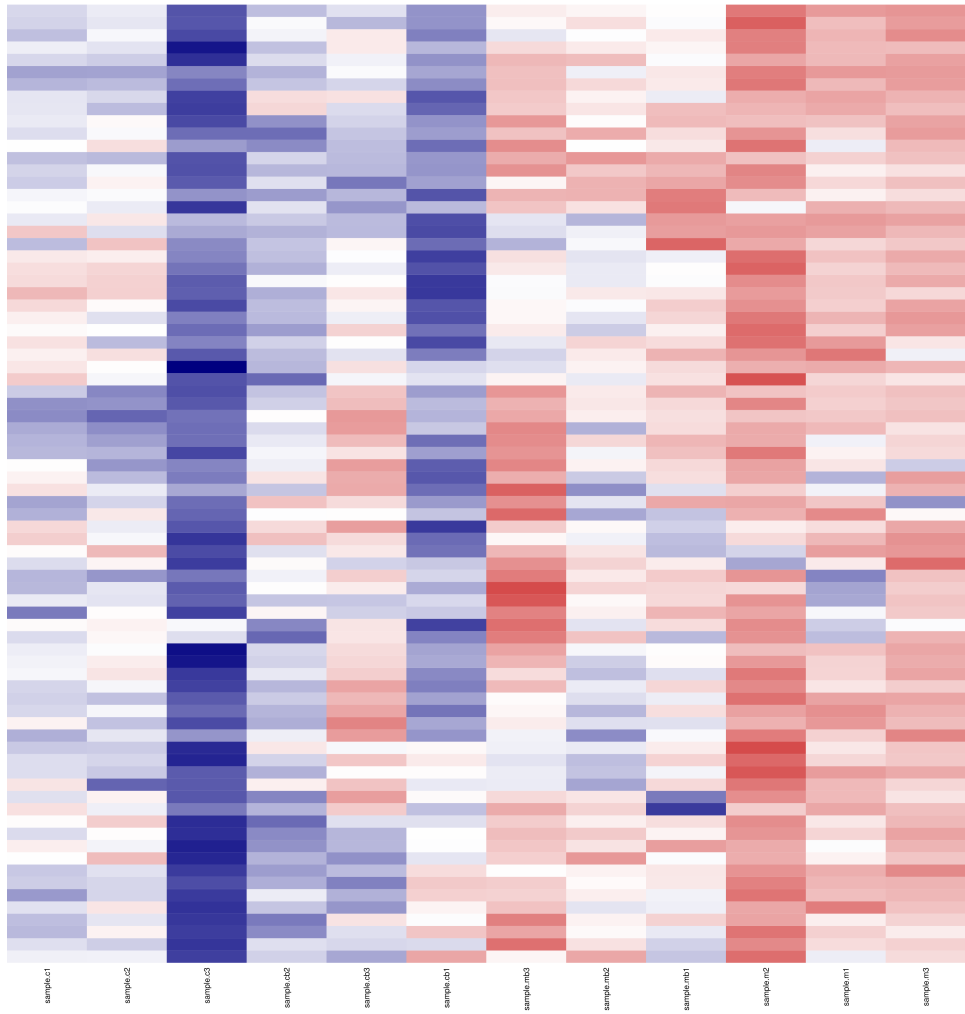
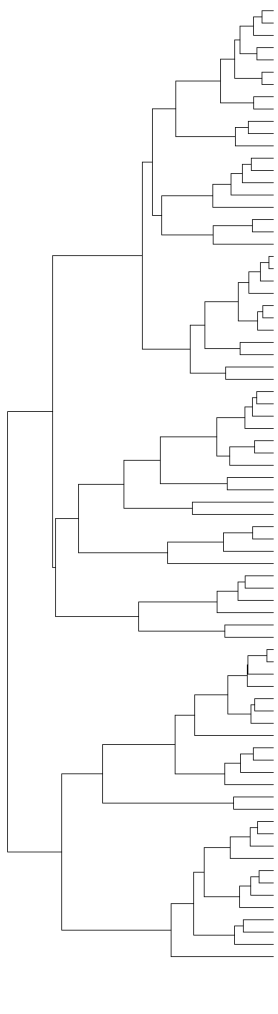
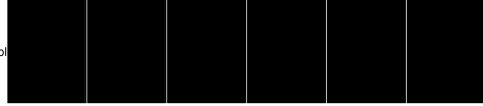
white



groups=mutant



groups=control



Genes

Fig. S3C

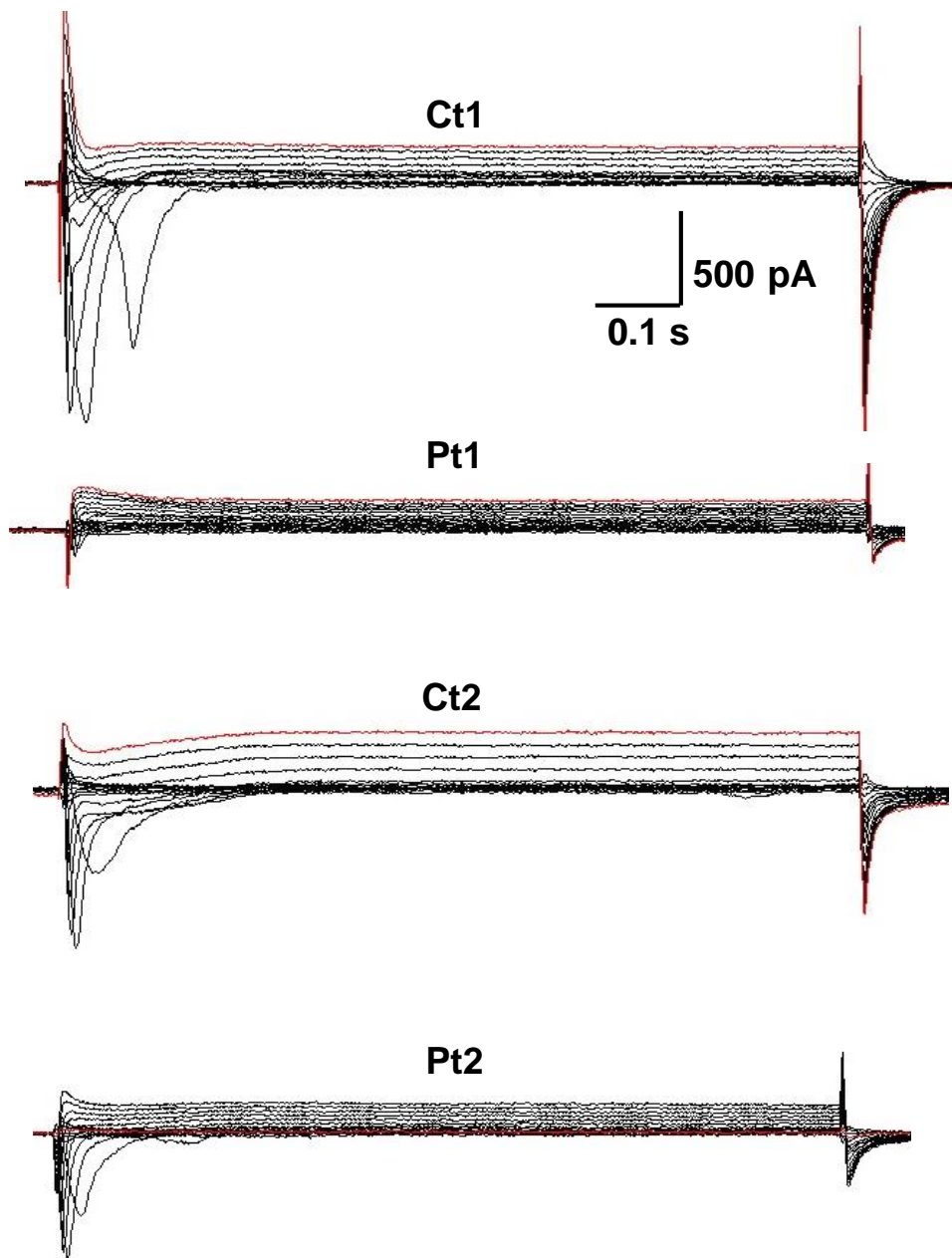


Fig. S4

