## Supplemental Material

## Table S1. RNA Quality Control Data

Sample	RIN	Raw reads #1	Raw reads #2	% bases Q>= 30	Uniquely mapped reads %	Multi- mapped reads %
TRAP control axons						
rep 1	7.8	29,430,720	29,430,720	94.48	77.47	19.04
TRAP control axons rep 2	8.0	27,285,154	27,285,154	95.24	78.08	18.39
TRAP control cortex rep 1	9.4	34,057,317	34,057,317	95.5	72.25	23.47
TRAP control cortex rep 2	9.8	38,634,382	38,634,382	94.96	70.66	25.54
TRAP trained axons rep 1	9.8	30,221,230	30,221,230	94.41	76.86	19.78
TRAP trained axons rep 2	8.7	27,951,448	27,951,448	94.32	76.68	19.66
TRAP trained cortex rep 1	9.9	37,791,175	37,791,175	94.79	69.93	25.90
TRAP trained cortex rep 2	9.7	34,481,070	34,481,070	94.91	72.18	23.83
Transc. control axons rep 1	6.4	35,934,968	35,934,968	93.03	87.30	10.10
Transc. control axons rep 2	7.2	36,774,857	36,774,857	95.05	87.42	9.98
Transc. control cortex rep 1	8.7	36,067,046	36,067,046	94.00	88.01	9.65
Transc. control cortex rep 2	8.7	33,261,134	33,261,134	93.84	87.79	9.78
Transc. trained axons rep 1	9.6	37,890,759	37,890,759	94.16	88.04	9.63
Transc. trained axons rep 2	8.8	39,793,039	39,793,039	94.02	87.81	9.63
Transc. trained cortex rep 1	8.6	31,509,058	31,509,058	93.81	88.15	9.42
Transc. trained cortex rep 2	9.0	31,031,259	31,031,259	95.58	87.72	9.61
YFP_IP control axons rep 1	7.0	39,073,113	39,073,113	94.15	74.32	21.75
YFP_IP control axons rep 2	9.0	32,214,031	32,214,031	94.25	72.90	22.99
YFP_IP control cortex rep 1	8.8	27,039,569	27,039,569	93.57	76.52	19.51
YFP_IP control cortex rep 2	9.3	27,888,237	27,888,237	93.17	73.15	22.23
YFP_IP trained axons rep 1	9.0	27,119,148	27,119,148	92.58	74.22	21.69
YFP_IP trained axons rep 2	8.4	29,286,890	29,286,890	95.23	73.60	22.19
YFP_IP trained cortex rep 1	9.5	30,180,396	30,180,396	94.74	76.00	19.55
YFP_IP trained cortex rep 2	8.9	29,087,509	29,087,509	93.94	74.33	21.60
YFP transc. control axons rep 1	9.5	32,819,895	32,819,895	94.16	88.17	9.33

## Table S1. RNA Quality Control Data, cont.

Sample	RIN	Raw reads #1	Raw reads #2	% bases Q>= 30	Uniquely mapped reads %	Multi- mapped reads %
YFP transc. control axons rep 2	9.4	32,118,423	32,118,423	94.29	86.84	10.52
YFP transc. control cortex rep 1	9.6	29,502,761	29,502,761	93.81	87.73	9.71
YFP transc. control cortex rep 2	7.6	30,411,787	30,411,787	93.38	87.43	9.86
YFP transc. trained axons rep 1	9.6	29,436,121	29,436,121	92.82	88.19	9.30
YFP transc. trained axons rep 2	9.1	33,504,177	33,504,177	95.48	87.93	9.49
YFP transc. trained cortex rep 1	9.4	33,113,755	33,113,755	95.15	87.57	9.53
YFP transc. trained cortex rep 2	9.6	31,485,033	31,485,033	94.04	87.87	9.57

RIN: RNA Integrity Number; Q =-10 x  $log_{10}(p)$  where p=probability of incorrect base call

## Supplementary Tables 2-8 are in a separate Excel file

Supplementary Table 2. Results of differential gene expression analysis and subsequent filtering.

Supplementary Table 3. Results of differential gene expression analysis and subsequent filtering, YFP samples.

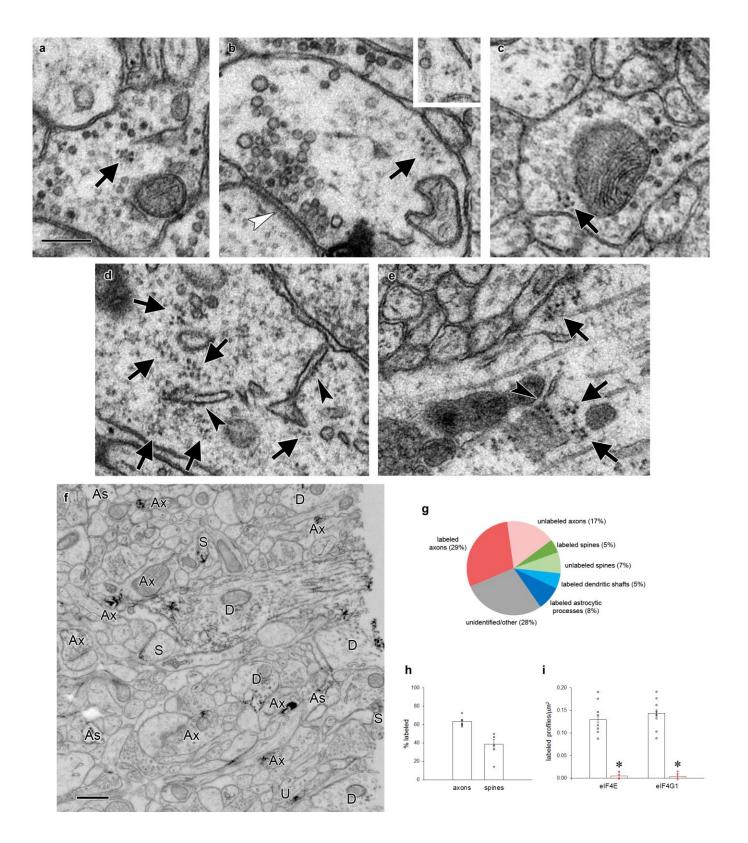
Supplementary Table 4. Results of DAVID enrichment analyses of all axonal genes, cortex-only genes, and genes that were upregulated and downregulated in the axons and cortex.

Supplementary Table 5. Results of ANOVA and post hoc Bonferroni test comparing mean FPKM between experimental groups by learning effect.

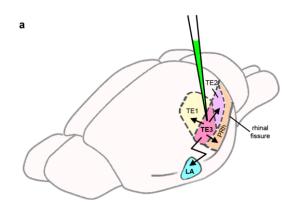
Supplementary Table 6. Results of IPA Upstream Regulator analysis of learning effects in axons and cortex.

Supplementary Table 7. Results of IPA Functional Annotation analysis of learning effects in axons and cortex.

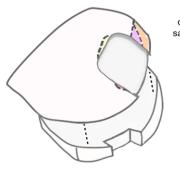
Supplementary Table 8. Transcript-level FPKM values and results of differential expression analysis.

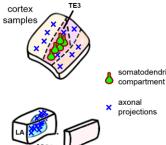


**Supplementary Figure 1.** Polyribosomes and translation factors in axons. a-c) Examples of polyribosomes (arrows) in axonal boutons. Inset in (b) shows the same polyribosome on an adjacent serial section. d-e) Copious polyribosomes (arrows) in a neuronal cell body (d) and a large dendritic shaft (e). Rough endoplasmic reticulum (arrowheads) is visible in both structures. f) Representative field of tissue immunolabeled for eIF4E, with labeled axons (Ax), astrocytic processes (As), dendritic shafts (D), and dendritic spines (S) indicated. Profiles were followed through serial sections to confirm identifications. g) Breakdown of all profiles in a  $4\mu m^2$  field of one section near the center of a serial EM volume of tissue immunolabeled for eIF4E. Six series were averaged. 28% of profiles could not be unambiguously identified within the series. h) Percent of axons and spines in a  $4\mu m^2$  field that were immunolabeled for eIF4E when followed through series. 100% of dendritic shafts and astrocytic processes contained label.



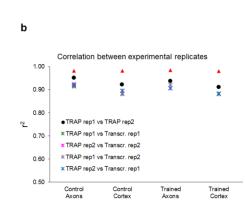
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axons samples axonal projections

somatodendritic

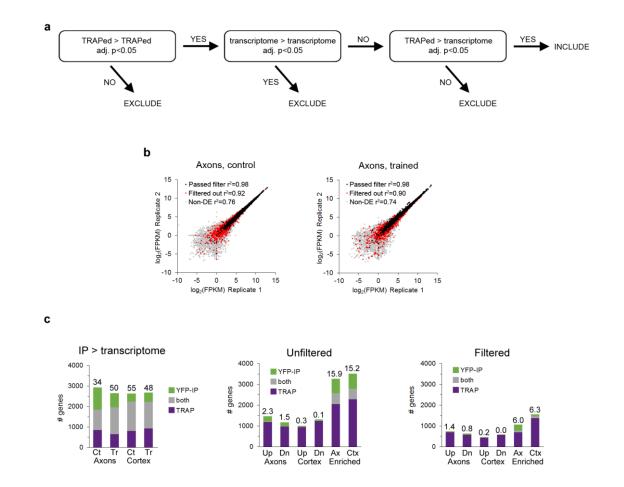


Enriched	log2(FoldChange), TRAP vs Tissue Transcriptome								
in Neurons	Control	Trained	Trained						
	Axons	Axons	Cortex	Cortex					
Bcl11a			-0.58						
Zfp238	0.61	0.53	0.61	0.88					
Tp53i11	-0.35	-0.44	-0.57						
Dcx			-1.31						
Bcl11b	0.61	0.74	1.16						
Vprbp	0.98			1.54					
Nsg1	-0.49			-0.74					
Dut		0.71	0.60						
Hirip3		0.66	1.04						
Camta1	0.77	0.65	0.93	1.16					
Ahdc1	1.29	1.00	1.40	1.87					
Ubqln1	-1.56	-1.61	-1.29	-1.20					
Syngap1	1.68	1.72	1.37	1.92					
lgsf3	0.91	1.15	0.70	0.72					
Nsg2		0.32	0.52	0.26					
Rai1	0.82			1.09					
Usp29	0.71		1.00						
Dapk1	1.23	0.95	0.93	1.13					
Celf4	-0.23	-0.19							
Dgkg	0.77		0.75						
Ss18I1		-1.41	-1.44	-1.47					
Tyms		-1.71							
Brsk1	1.46	0.90		1.55					
Afap1		1.43							
Dlg3			-0.84						
Sugp2	0.84		0.41	1.33					
Pbx1	-1.13		-1.58	-1.35					
Ep400	1.44	1.48	1.29	1.33					
Map9	0.31	0.91	1.37	0.94					
Calb2	-1.25	-0.86	-0.78	-1.15					
Ssh2	1.62	1.05		0.96					
Phc2		-0.41		-0.54					
Scg2		0.63	0.83	0.43					
Ociad2	-1.71		-1.43	-1.05					
Sptbn2	4.24	2.32	1.60	3.66					
Serpini1	-0.29	-0.38							
Baz2b	1.02	0.54	1.20	1.21					
Cpne5	1.27	0.75	0.77	1.14					
Kif5c	0.71	0.58	0.30	0.55					
Elavl3	0.58	0.83	1.02	1.08					
Nell2	0.25	0.43	0.45	0.41					
Ttc26			-1.84						
Chd5	1.75	2.18	2.49	2.73					
Whsc1	-1.29	-1.08		-0.98					
Arhgap39	1.50								
Mtss1		0.80	0.97	0.71					
Chd8	1.48	1.63	2.09	1.45					
Fnbp1I	0.89	1.24	1.19	1.05					
Ccsap		0.84	1.35						
Kdm5b	1.68	0.79	0.94	1.19					

Depleted in	log2(F	oldChange Transc	log <sub>2</sub> (FoldChang		
Neurons	Control	Trained	Control	Trained	[2
	Axons	Axons	Cortex	Cortex	- 0
S100a4		1.30	1.39	1.23	l fu
Sec14l2				-0.73	
Myo9b	1.18				2
ltgb8	0.82	1.75	0.84	1.22	
Hebp1	-0.70		-1.36	-0.75	
Padi2	0.77			0.91	
Tns3	0.87			1.04	
Arhgap5			0.97		
Pggt1b		-1.46	-1.35	-2.18	
Prex1			-0.68		
Gys1	0.96				
Cnp	0.51	-0.19			
Gatm	-0.61	-1.39	-1.54	-0.79	
Sumf1	-0.78			-1.09	
Acox3				-1.41	
Abhd4		-1.60	-1.28	-0.64	
Erap1			-1.72		
Sept10		-1.43			
Cers2	-1.11	-1.20	-1.50	-1.40	
Tor1aip2	-0.94	-1.29		-0.72	
Pld1	0.04	1.20	-1.15	0.72	
Akr1b10	-1.25			-2.39	
Qk	-1.20	-0.54	-0.61	-1.14	
Parvb	-1.72	-1.47	-1.50	-1.55	
Cluh	0.84	- 1.41	0.47	0.89	
Stom	0.04		0.41	-1.52	
Sirpa			0.44	1.02	
Camk1			0.44	-0.28	
Csad	0.64		1.12	0.71	
Emb	0.04			-0.83	
Pla2g7	-1.35			-0.00	
Aldoa	-0.25	-0.19	-0.43	-0.52	
Rac1	-0.73	-1.35	-1.55	-1.27	
Tbc1d9b	0.72	-1.55	-1.55	-1.27	
Pxn	0.12		-0.92		
Mgat1		0.82	1.19		
Xpot		-0.69	1.10		
Sh3glb1	-1.09	-0.05		-0.69	
Sri	-1.09		-0.69	-0.62	
Arl8b	-1.00	-0.28	-0.89	-0.62	
Marc2		0.59	-0.55	-0.23	
Gfpt1		1.17	1.04		
Snx4	-0.70	-0.47	1.04		
Snx4 Ilvbl	-0.70	-0.47		-0.55	
Snx3	-0.56	0.23		-0.00	
		-1.83	-2.43	-2.51	
Ube2j1	-2.44	-1.03	-2.43	0.54	
Papss1	0.66		0.70		
Anxa6 Aprt	0.31	0.75	-0.78 0.77	-0.65 0.53	

Supplementary Figure 2. Collection of TRAP samples. a) Left: Illustration of LV-CMV-eYFP-L10a injection into cortical area TE3, showing TE3 projections to cortical areas TE1, TE2, and perirhinal (PRh), and the lateral amygdala (LA). Right: Illustration of tissue sampling for TRAP. After separating the hemispheres and bisecting along the rhinal fissure, cortex samples were collected by dissecting wide margins around TE3 so that portions of adjacent cortical areas and the underlying white matter

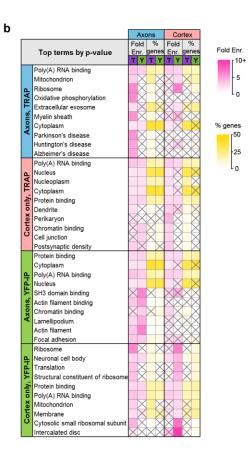
were included. A separate block was dissected from the ventral half (the "axons" sample), containing the LA, along with the immediately adjacent small area of caudate that also receives projections from TE3. The adjacent area of cortex was removed to ensure that these samples did not contain any stray pieces of perirhinal cortex that could contain cortico-cortical axons. Cortical divisions and projection patterns adapted from references 25-27. b) Correlation coefficients of log<sub>2</sub>(FPKM) between experimental replicates, calculated from all raw data. c) The top genes in the proteome of adult mouse cortex identified as enriched (left) or depleted (right) in neurons versus other cell types, sorted by magnitude of enrichment <sup>44</sup>. The top 50 genes that were also significantly enriched or depleted in our TRAPed samples versus the tissue transcriptome are shown, with the normalized magnitude of change. Significance was defined as an adjusted p value of <0.05. Neuron-enriched genes were mostly enriched in TRAPed samples (36 of 50), while neuron-depleted genes were depleted from TRAP samples (34 of 50).



**Supplementary Figure 3.** Filtering of DGE results. a) Strategy for removing false positives from results of differential gene expression analysis. b) FPKM values of TRAPed genes from axons in experimental replicates of the control (left) and trained (right) groups. All genes defined as axonal that passed the filtering procedure are indicated with black markers, axonal genes that were removed by filtering with red, and genes that were not axonal in gray. c) Overlap between DGE results in the TRAP and YFP-IP experiments. Left: genes enriched in the TRAP and YFP IP samples versus the transcriptome for all four experimental conditions. Numbers above the bars indicate percent overlap. Center, right: Overlap between genes regulated in axons and cortex (Up, upregulated; Dn, downregulated) or enriched in the axons versus cortex in the unfiltered data (center) and filtered data (right).

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	Tan tanna ku a uskus	Fold Enr	richment	p-va	alue	% genes		
	Top terms by p-value	Filtered	Unfilt.	Filtered	Unfilt.	Filtered	Unfilt.	
1	Poly(A) RNA binding	3.08	2.03	1.4E-62	7.7E-40	17.8	11.6	
	Mitochondrion	2.50	1.89	1.9E-50	1.5E-43	20.3	15.1	
	Ribosome	6.12	3.05	7.1E-49	1.2E-22	6.2	3.0	
	Oxidative phosphorylation	5.94	3.31	3.1E-38	9.1E-24	5.1	2.7	
	Extracellular exosome	1.91	1.70	1.2E-36	1.4E-49	25.6	22.4	
	Myelin sheath	5.59	3.62	2.8E-36	5.9E-33	5.4	3.4	
	Cytoplasm	1.56	1.45	3.4E-36	2.1E-52	41.3	37.9	
	Parkinson's disease	5.48	3.26	2.7E-34	9.6E-24	4.9	2.8	
	Huntington's disease	4.61	2.56	2.1E-32	5.0E-16	5.5	2.9	
	Alzheimer's disease	4.70	2.78	3.9E-30	1.7E-18	5.1	2.9	
	Cytoplasm	1.56	1.45	3.4E-36	2.1E-52	41.3	37.9	
	Extracellular exosome	1.91	1.70	1.2E-36	1.4E-49	25.6	22.4	
	Protein binding	2.05	1.91	1.4E-26	9.4E-46	16.6	15.3	
	Mitochondrion	2.50	1.89	1.9E-50	1.5E-43	20.3	15.1	
	Poly(A) RNA binding	3.08	2.03	1.4E-62	7.7E-40	17.8	11.6	
	Myelin sheath	5.59	3.62	2.8E-36	5.9E-33	5.4	3.4	
	Cytosol	1.78	1.70	1.7E-15	7.9E-28	14.3	13.5	
	Membrane	1.68	1.56	1.6E-17	2.7E-26	18.8	17.1	
	Oxidative phosphorylation	5.94	3.31	3.1E-38	9.1E-24	5.1	2.7	
	Parkinson's disease	5.48	3.26	2.7E-34	9.6E-24	4.9	2.8	



Supplementary Figure 4. Comparison of TRAP and YFP-IP experiments. a) Top GO and KEGG Pathway terms enriched in the filtered and unfiltered sets of axonal genes, sorted by Benjamini-Hochberg adjusted p-value. b) Top GO Terms and KEGG pathways in axonal and cortex-only translatomes in TRAP and YFP-IP samples, sorted by Benjamini-Hochberg adjusted p-value. Gray X's indicate effects that were not significant (adjusted p-value >0.05).

Fold Enr.

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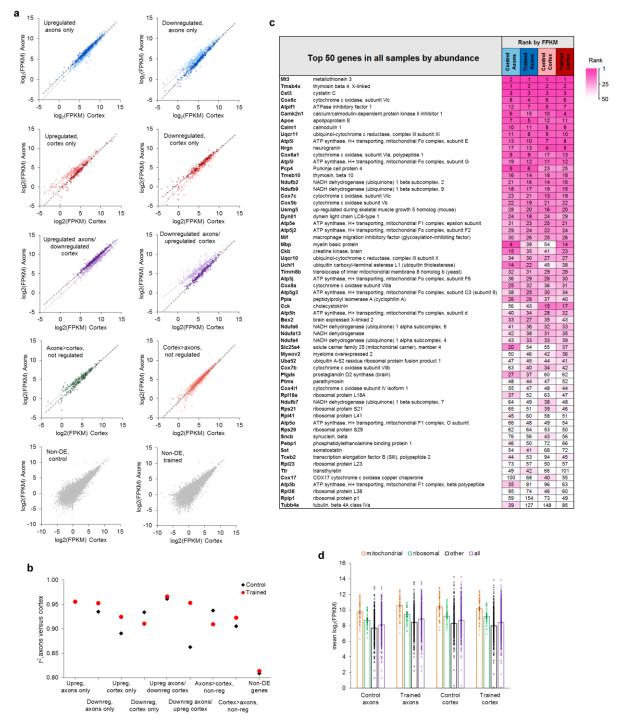
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Significantly Enriched Terms	Fold E	Inrich.	% of	genes	Fold
Significantly Enriched Terms	Axons	Cortex	Axons	Cortex	
Presynaptic compartment					
Myelin sheath	5.6		5.4		1
Axon	2.4		4.5		1
Axon cytoplasm	4.5		0.8		% ge
Axonal growth cone	3.9		0.6		
Synaptic vesicle	2.4		1.6		1
Metabolism/mitochondrial					1
Mitochondrion	2.5		20.3		1
Oxidative phosphorylation	5.9		5.1		1
Metabolic pathways	1.5		11.6		1
Citrate cycle (TCA cycle)	5.4		1.0		1
RNA Processing/Translation					1
Catalytic step 2 spliceosome	3.7	3.8	1.8	1.7	1
Poly(A) RNA binding	3.1	2.6	17.8	14.8	1
Spliceosome	3.1		2.5		1
Ribosome	6.1		6.2		1
Translation	3.1		6.0		1
Golgi apparatus	1.4		5.9		1
Cytoskeleton/transport/cell adhesion					1
Cell junction		2.3		4.5	1
Microtubule	2.9		3.4		1
Cytoskeleton	2.5		3.0		1
Actin binding	2.4		3.1		1
Motor activity	4.0		1.1		1
Cadherin binding involved in cell-cell adhesion	2.1		2.3		1
Nucleus/transcription					1
Chromatin binding		2.4		5.4	1
Nucleus	1.4	1.5	34.4	36.0	
DNA-directed RNA polymerase II, core complex	4.7		0.5		1
Cell body					1
Perikaryon		3.8		2.8	1
Perinuclear region of cytoplasm	1.8	1.9	5.9	5.8	1
Neuronal cell body	2.2	2.0	6.0	5.2	1
Postsynaptic compartment					1
Dendrite	1.7	2.6	4.2	6.1	1
Dendrite membrane		8.4		1.0	1
Postsynaptic density	2.4	2.8	2.9	3.2	1
Postsynaptic membrane		2.7		2.6	1
Dendritic spine	2.6		1.9		
Other					]
Zinc ion binding		1.7		9.0	
Extracellular exosome	1.9		25.6		
Cytoplasm	1.6	1.4	41.3	35.8	
Parkinson's disease	5.5		4.9		
Huntington's disease	4.6		5.5		
Alzheimer's disease	4.7		5.1		
Membrane	1.7		18.8		
Proteasome complex	4.1		1.2		
Calmodulin binding	2.6		2.1		
Positive regulation of GTPase activity	1.8		3.6		

b								
~		Overlap with published axonal	% ov	erlap	# of g	enes	% overla	
		translatome/transcriptomes	Ax	Ct	Ax	Ct		<sup>15+</sup>
	Axonal	Adult RGCs, in vivo <sup>20</sup>	4.1	2.3	77	26		7.5
	transl.	Immature RGCs, in vivo <sup>20</sup>	14.1	4.9	460	139		L.
		DRG, mature cultures <sup>17</sup>	13.0	4.5	424	126		- 0
		DRG, developing cultures <sup>17</sup>	17.4	5.7	520	147		
	Axonal	Cortex, mature cultures <sup>19</sup>	8.4	2.0	137	19		
	transcrip.	Cortex, mature cultures, upreg. after injury <sup>19</sup>	1.6	1.0	31	12		
	transenp.	Cortex, mature cultures, downreg. after injury <sup>19</sup>	4.9	2.2	87	24		
		DRG, injured, developing cultures <sup>18</sup>	6.7	1.5	112	13		
		Motor neurons, developing cultures <sup>46</sup>	4.5	5.2	64	35		
		Adult CA1, acute slices <sup>8</sup>	11.5	5.8	415	177		
	Neuropil	Adult CA1, in vivo <sup>9</sup>	1.5	0.9	23	7		
	transcrip.	Cultured CA17	1.0	0.8	16	7		
		Juvenile cortical synaptoneurosomes (transl.)10	3.7	1.7	53	12		

**Supplementary Figure 5.** Composition of the axonal translatome. a) Groups of related terms enriched in axonal, cortex-only, or both gene sets. Text color indicates higher enrichment in axons (blue) or cortex (red). Only significant effects (adjusted p-value <0.05) are shown. b) Overlap (% intersection/union) between the axonal and cortex-only and published translatomes and transcriptomes in references 8-10 and 16-19, and number of overlapping genes.

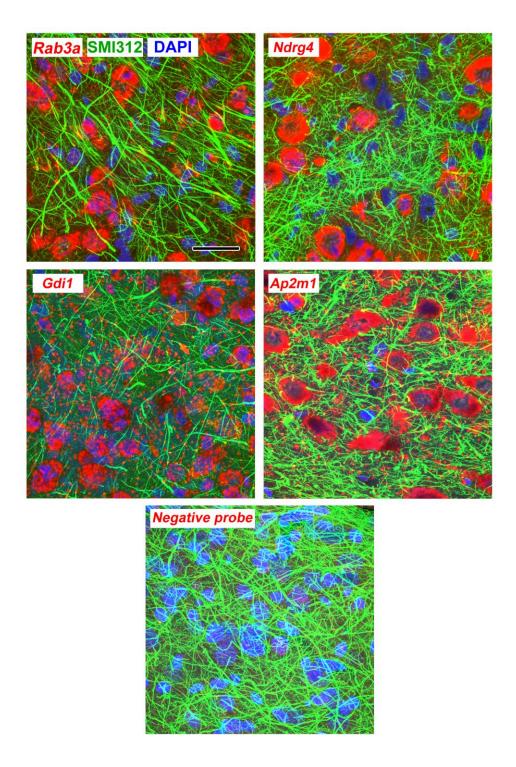


**Supplementary Figure 6.** Relative abundance of genes in axons and cortex. a) Plots of log2(FPKM) in cortex versus axons in control (light markers) and trained (dark markers) groups, grouped by learning effects. b) Correlation coefficients between  $log_2(FPKM)$  in cortex and axons for each learning effect. c) 63 genes representing the top 50 genes from each of the four groups, sorted by average rank. d) Mean FPKM of genes upregulated in axons and downregulated in cortex after learning, grouped into mitochondrial respiration (n=55), ribosomal proteins (n=39), the remainder (n=294), and the full gene set (n=388). Error bars= s.e.m.

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Γ	Top Regulated IPA	Activa	tion z- ore	# of	genes	p-	value		tivation
	Functional Annotations	Axons	Cortex	Axons	Corte	x Axons	Cortex	-	-score
	formation of cellular protrusions	-1.529	1.229	93	67	3.3E-0	6 6.4E-04	1	
	neuritogenesis	-1.145	1.104	92	66	4.3E-0	6 8.6E-04	4]	- 0
	microtubule dynamics	-1.634	0.941	102	73	5.8E-0	6 1.3E-0	3	
	morphology of axons			24	16	1.3E-0	5 2.1E-03	3	-0
	potentiation of synapse abnormal morphology of neurites	-2.913	2.475	43	29	3.8E-0	5 5.8E-0	3	
	abnormal morphology of neurites			30	23	4.2E-0	5 4.1E-04	4	
	development of neurons	-0.955	0.531	101	74	4.5E-0	5 2.2E-0	3	
	quantity of neurofilaments	-0.577	0.577	4	4	4.6E-0	5 1.6E-0	5	
	axonal transport	-2.425		7	-	5.2E-0	5	1	
	long-term potentiation	-3.148	2.767	42	28	-	5 9.1E-0	3	
	quantity of neurofilaments	-0.577	0.577	4	4		5 1.6E-0	-	
	size of axons			4	4	2.2E-0		_	
	plasticity of neuronal synapse			8	7	1.6E-0		-	
	a planticity of superson	-1.664	1.026	23	20	4.1E-0		-	
	morphology of dendrites	-1.004	1.020	15	16	8.8E-0	_	-	
	morphology of dendrites cell death of pyramidal neurons		1.372	4	6	3.8E-0	-	-	
	size of neurons		1.372	17	15	6.5E-0		-	
	abnormal morphology of neurites			30	23	4.2E-0	_	_	
	morphology of neurites			38	30	4.2E-0		-	
	long term depression	-1.262	0.686	38	18		4 5.0E-04	-	
				% overla	n l	# of g	anas		04 augustas
	Overlap with published axonal							log <sub>2</sub> (up/ down)	% overlap
	translatome/transcriptomes	Up Axe		wnreg xons	Upreg Axons	Downreg Axons	down)		
Translatome	Adult RGCs, in vivo <sup>20</sup>		2	.7	3.7	30	37	-0.30	-7.5
	Immature RGCs, in vivo <sup>20</sup>		7	.1	8.4	195	220	-0.17	
	DRG, mature cultures <sup>17</sup>	DRG, mature cultures <sup>17</sup>						1.16	-0
	DRG, developing cultures <sup>17</sup>		13	.8	6.3	331	155	1.09	log_(up/dow
	Cortex, mature cultures <sup>19</sup>		12	.9	2.4	113	20	2.50	r 1
Transcriptome	es Cortex, mature cultures, upreg. after	r injury <sup>19</sup>	1	.3	1.2	15	13	0.21	
	Cortex, mature cultures, downreg. a	fter injury <sup>19</sup>	5	.5	2.9	57	27	1.08	- 0
	DRG, injured, developing cultures <sup>18</sup>		11	.6	2.4	93	18	2.37	
	Motor neurons, developing cultures44				1.1			1.97	

b

**Supplementary Figure 7.** a) Functional annotations significantly regulated by learning in the axons and cortex. b) Overlap between genes regulated in axons and published translatomes and transcriptomes in references (16-19).



Supplementary Figure 8. Maximum intensity projections through  $3\mu m$  (10 confocal images with a 0.3 $\mu m$  z-step size) of lateral amygdala showing FISH labeling and immunolabeling for neurofilaments. Scale = 20  $\mu m$ .

transcript         some         some         some         some         some         some         some         certex           NM_00127084         0.00	cons/ downregulated	cont	ribution	score	adj. p	value	Upregulated axons/ downregulated cortex, cont.		cont	ribution :	adj. p value		
Image of the set of t		ayons	cortex		arons	cortex			avone	cortex		avone	cortex
Num_01270882         DOB         DOB        DOB         DOB <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>gene</td><td></td><td></td><td></td><td></td><td></td><td></td></th<>							gene						
M. 00170848         DOG         DOG         TOO         TOO <thtoo< th="">        TOO         <thtoo< th=""> <thtoo< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td></thtoo<></thtoo<></thtoo<>													
Num_Controles         0.75         0.72         0.02         0.031         0.035         0.035           Num_Controls         0.031         0.23         0.275         0.73         0.03         0.035         0.035           Num_Controls         0.31         0.21         0.03         0.025         0.035							4						
Num_ 012							Apoe						
ML 21866         0.81         0.78         0.05         0.78         0.04         0.78         0.05         0.78         0.83           ML 21762         0.52         0.52         0.07         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.84         0.78         0.85         0.84         0.78         0.85         0.84         0.78         0.85         0.78         0.85         0.78         0.85													
Number 2012													
NML 0712362         0.32         0.27         0.65         0.002         0.001           NML 0712364         0.32         0.27         0.55         0.002         0.001           NML 0710369         0.37         0.13         0.22         0.02         0.001 <th< td=""><td></td><td>0.81</td><td>0.76</td><td></td><td></td><td></td><td></td><td>NM_001034068</td><td>0.31</td><td>0.24</td><td>0.07</td><td>0.599</td><td>0.830</td></th<>		0.81	0.76					NM_001034068	0.31	0.24	0.07	0.599	0.830
NHM         CT22         O.S.         O.S.         O.S.         O.S.         I.S.           NML         CT21         O.S.	NM_031660_1	0.19	0.24	-0.05	0.878	0.844		NM_001034069	0.01	-0.03	0.03	0.842	0.704
Num, Control Control         Contro	NM 017326	0.32	0.27	0.05	0.002	0.018			0.00	0.00	0.00	1.000	1.000
Ind. gentsorgse         0.37         0.13         0.24         0.58         0.87         0.13         0.24         0.88		0.68	0.73	-0.05	0.002	0.004							
Num_ases         G.S.													
Image: Second state in the second state in													
MM_001070708_1         COD         COD        COD         COD         <							1 pm1						
MM_001175262         COD         COD        COD         COD <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>													
Num_ 111197         10000         1000         1000													
Inst. point													
NML 001102/39         O.94         O.43         O.43         O.43         O.43         O.43         O.43         O.43         O.44	NM_173117	0.00	0.00		1.000	1.000							
Umb         Umb         Unit         Umb         Umb         Unit         Unit         Umb         Unit         Umb         Unit         Umb         Unit         Umb         Unit         Umb         Unit         Umb         Unit         Unit <thunit< th=""> <thunit< th=""> <thunit< th=""></thunit<></thunit<></thunit<>	NM_001012739	0.59	1.04	-0.46	0.432	0.499							
Unit         Unit <th< td=""><td>NM_001160231</td><td>0.44</td><td>-0.17</td><td>0.61</td><td>0.462</td><td>0.894</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	NM_001160231	0.44	-0.17	0.61	0.462	0.894							
IMM_00134428         0.68         0.06         0.246         0.838           NMM_00134284         0.60         0.60         0.286         0.68         0.05<	NM 001160232	-0.03	0.13	-0.15	0.933	0.781	Uqcr11						
NML 001134292         0.41         0.35         0.06         0.280         0.680           NML 001104427         0.00         0.01         0.11         0.271         0.281		0.59	0.65		0.246			11110 001207109	0.05	0.02	0.03	0.119	0.951
NML 00103846         0.00         -0.12         0.11         0.373         0.315           NML 001100482         1.04         1.03         0.01         0.774         0.484           NML 001100482         1.04         1.03         0.01         0.774         0.484           NML 001112244         0.05         0.077         0.024         0.001         0.074         0.484           NML 001112244         0.05         0.024         1.000         0.011         0.074         0.484           NML 001112244         0.05         0.024         0.001         0.011         0.027         0.021<													
NML 0111045         1.00         1.12         0.01         0.74         0.85           NML 0011035407         0.04         0.03         0.01         0.77         0.84         0.01         0.77         0.84         0.01         0.77         0.84         0.01         0.77         0.84         0.01         0.77         0.84         0.01         0.02         0.01         0.01         0.02         0.03         0.04 <td></td>													
NML 001100482         1.04         1.03         0.011         0.074         0.448           NML 001112044         1.05         0.021         0.074         0.448           NML 001112044         1.05         0.021         0.001         0.076         0.021         0.001         0.076         0.021         0.001							c						
NM_0011189A7         -0.04         -0.03         0.01         orresultate some (pregulate social         contribution score         adj. p value           NM_00111265         -0.02         0.03         0.05         0.00         1.000         1.000           NM_00108259         0.72         0.84         0.40         0.877         0.891							•						
NML 001111284         1.05         0.07         0.80         0.011         0.021         0.011         0.021         0.011         0.021         0.011         0.021         0.001         0.021         0.011         0.021         0.001         0.021         0.011         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.021         0.001         0.001         0.001         0.001         0.001         0.001         0.001													
NML_001111294         1.05         0.07         0.081         0.011         0.011           NML_00111294         0.02         0.00         0.001         0.011							Downregulated	axons/ upregulated	contr	ibution s	score	adi, p	value
NML 19132         -0.03         0.38         0.376         0.680           NML,001082540         0.72         0.54         0.400         0.720         0.54         0.076         0.28         0.076         0.376         0.72         0.54         0.72         0.54         0.72         0.54         0.72         0.54         0.72         0.54         0.72         0.72         0.54         0.72         0.72         0.54         0.72         0.72         0.52         0.70         0.023         0.72         0.55         0.77         0.53         0.70         0.72         0.55         0.77         0.53         0.70         0.92         0.900         0.541           NML 001142941         0.71         0.40         0.690         0.930         0.986         0.77         0.38         0.77         0.586         0.77         0.381         0.77         0.521         0.977         0.330         0.76         0.922         0.927           NML 00112204         -001         0.02         0.021         0.016         0.021         0.021         0.01         0.020         0.233         0.77         0.23         0.06         0.022         0.041         0.75         7.24         0.977         0.230												-j. p	
INM.         9132         -0.03         0.38         0.036         0.077         0.44         0.0162         2020         0.028         0.000         0.009         0.000         0.0											axons-		
NML 001082580         0.71         0.27         0.648         0.690         0.71         0.27         0.68         0.038         0.71         0.27         0.68         0.038         0.71         0.27         0.68         0.038         0.71         0.27         0.68         0.038         0.73         0.74         0.84         0.48         0.48         0.44         0.42         0.67         0.58         0.07         0.83         0.000         0.07         0.83         0.000         0.07         0.83         0.07         0.83         0.07         0.83         0.07         0.83         0.07         0.83         0.07         0.83         0.07         0.83         0.07         0.83         0.07         0.83         0.07         0.83         0.07         0.83         0.08         0.07         0.08         0.08         0.03	NM_198132	-0.03	0.33	-0.36	0.976	0.680	dene	transcript	axone	cortex		axone	cortex
NML_00102240         0.71         0.27         0.48         0.49         0.75           NML_001023404         -0.28         0.90         0.398         0.74         0.88         0.74           NML_001018173         0.95         0.90         0.938         0.75         0.88         0.90         0.93         0.75         0.93         0.75         0.93         0.75         0.93         0.75         0.93         0.93         0.75         0.93         0.93         0.75         0.93 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>gene</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							gene						
NML 001082341         -0.23         0.00         -0.038         0.745         0.843           NML 001081972         0.68         1.71         -0.023         0.907         0.943           NML 001081972         0.68         1.71         -0.07         0.50         0.998           NML 001081974         0.14         -0.04         0.90         0.972         0.988           NML 0010181974         0.14         -0.04         0.91         0.972         0.988           NML 001142344         0.71         0.26         0.972         0.988         NML 001142345         0.19         0.11         0.03         0.894         0.834           NML 001142344         0.71         0.26         0.351         NML 001142342         0.28         0.06         0.022         0.060         0.022         0.060         0.021         0.061							Akap2						
NML 021404         -0.13         0.10         -0.23         0.907         0.943           NML_001019173         -0.98         -0.70         0.75         0.98         0.70         0.93         1.00         -0.00         0.03 <th0.03< th=""> <th0.03< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th0.03<></th0.03<>													
NML_001081972         0.86         1.07         -0.12         0.76         0.83         0.90         0.72         0.93         0.80         0.01         0.02         0.93         0.80         0.02         0.93         0.83         0.02         0.93         0.83         0.00         0.56         0.00         0.56         0.00         0.56         0.83         0.93         0.83         0.00							Regain						
NML, D0108172         Outs 11/2         Outs 11/2         Outs 0							begain	NM_024163	0.93	1.00	-0.07	0.121	0.004
DML_001081973         DUIS         DUIS <thduis< th="">         DUIS         DUIS</thduis<>								NM 001042354	-0.01	0.01	-0.02	1.000	0.596
Imm_00114294         0.1         0.0         0.0         0.072         0.385           NM_001142942         0.28         1.06         1.08         0.072         0.385           NM_001142942         0.28         1.06         1.08         0.0672         0.385           NM_001142942         0.28         1.06         1.06         0.00         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.001 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>Camk2b</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							Camk2b						
Imm_00114241         O.12         D.05         D.072         D.05         D.072         D.05         D.072         D.05         D.05 <thd.05< th="">         D.05         D.05</thd.05<>				0.19			Carriero						
Influx 01142442         0.28         -1.06         0.08         0.020         0.381           NML 0231051         1.00         1.00         0.00         0.000         1.00         1.00         0.000	_ NM_001142941	0.71	2.06	-1.35	0.672	0.336							
Inth_001051_1         I.00         I.00 <thi.00< th="">         I.00         I.00</thi.00<>	NM_001142942	0.29	-1.06	1.35	0.801	0.481	Csnk1g2						
NML 031051_1         0.00         0.00         1.000         1.000         0.000         1.000           NML 001287116         1.01         1.02         -0.01         0.156         0.680         0.780           NML 001189592         0.96         0.88         0.728         0.728         0.01         0.03         0.88         0.728           NML 001189592         0.96         0.88         0.90         0.000         1.000         0.000         1.000         0.000	NM 031051												
IMM_00128704         - Oot         - Oot         0.01         0.02         - Oot         0.02         0.01         0.93         0.726           NM_00128704         - Oot         - Oot         0.00         0.00         0.00         0.02         0.01         0.04         0.72         0.724           NM_00110939         0.04         0.12         - Ood         0.752         0.724         0.00					1 000		Digan1	NM_001304287		0.91			
NML 001287116         1.01         1.02         -0.01         0.166         0.680           NML 001198562         0.96         0.88         0.99         0.002         0.996           NML 001191673         0.80         0.88         0.99         0.002         0.996           NML 001191673         0.82         0.95         0.186         0.997           NML 001197322         0.82         0.15         0.987         NML 0011777286         0.01         0.00							Digapi	NM_022946	-0.01	0.09	-0.11	0.931	0.728
IMM_001105939         0.4         0.12         -0.08         0.772         0.520           NM_001198580         0.96         0.88         0.96         0.022         0.98           NM_001190320         0.96         0.88         0.90         0.00         1.000         1.000           NM_001177332         0.82         1.13         0.31         0.064         0.180         0.000           NM_0011777249         0.01         -0.01         0.00         0.000							Disca 2	NM_001276304	0.07	0.12	-0.04	0.753	0.724
Introduction         Introduction<							Digap3	NM 001301876	0.93	0.88	0.04	0.028	0.199
Instructure         Instructure <thinstructure< th=""> <thinstructure< th=""></thinstructure<></thinstructure<>													
Imm_0011010         0.00         0.000         0.000         0.000         0.000           NM_00110710         0.81         0.08         0.05         0.085         0.081         0.000							lqsec2						
NML_02017         0.01         0.02													
NML_00119732         0.82         1.13         0.03         0.08         0.009         0.00         0.01         0.03         0.01         0.01         0.03         0.01	NM_001101011	0.87					Kdm5a						
NM_00119707         0.02         0.02         0.03         0.00         0.00           NM_0017153         0.01         -0.01         0.03         0.903         0.941           NM_0017727249         0.00         0.00         0.00         1.000         1.000           NM_001777250         0.23         0.07         0.16         0.21         0.941           NM_001277251         0.00	NM_022607	0.13	0.18	-0.05	0.468	0.634							
INM_00113707         0.17         0.12         0.29         0.347         0.609           NM_007137         0.01         0.00         0.00         1.000         1.000         1.000           NM_001277249         0.00         0.00         0.00         1.000         1.000         1.000           NM_001277250         0.23         0.07         0.16         0.219         0.901         NM_001025292         0.15         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.00         0.00         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.02<	NM 001197332	0.82	1.13	-0.31	0.086	0.009		NM_001025289	0.00	0.00	0.00		0.976
NNL_001277230         0.01         -0.01         0.03         0.901           NNL_001277250         0.23         0.07         0.160         0.001         0.001         0.001         0.00								NM_001025291	0.04	0.02	0.02	0.547	0.747
INM_001277249         0.00         0.00         1.000         1.000           NM_001277251         0.20         0.20         0.20         0.20         0.20         0.00<							Mha	NM_001025292	0.15	0.20	-0.05	0.161	0.033
NM_001277250         0.23         0.07         0.16         0.21         0.01           NM_001277251         0.00         0.00         1.000         1.000         1.000         0.002         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001							qaivi	NM 001025293	0.13	0.11	0.02	0.070	0.549
NNL 001277251         0.00         0.00         1.000         1.000           NNL 001277253         0.02         0.02         0.004         0.0337           NNL 001277253         0.02         0.00         0.00         0.88         0.781           NNL 01272753         0.02         0.00         0.00         0.896         0.781           NNL 012727638         0.00         0.00         0.00         0.649           NNL 012727653         0.02         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.022         0.021 <td></td>													
NNL 001277252         0.74         0.83         -0.10         0.014         0.337           NML 057143         0.01         -0.07         0.896         0.781           NML 057143         0.01         -0.01         0.01         0.995         0.92         0.02         0.002         0.002         0.002         0.001         0.011         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.02         0.037         0.48         0.84         0.05         0.77         0.758         NML 001134751         0.06         0.89         0.765         NML 0011270624         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.01         0.01													
NM_001277253         0.02         0.10         -0.07         0.886         0.781           NM_057143         0.01         -0.01         0.891         0.649           NM_001270538         0.00         0.00         0.00         0.661         0.649           NM_001164718         -0.01         0.07         0.866         0.966         0.781           NM_001164718         -0.01         0.06         0.966         0.337           NM_001134750         -0.06         0.07         0.860         0.960         0.360           NM_001134750         0.05         0.17         -0.12         0.800         0.860         0.460         0.460         0.46         0.46         0.46         0.430         0.330         0.680           NM_001134751         0.05         0.17         -0.12         0.800         0.689         0.775         0.758           NM_021264         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.838         0.860           NM_021264, 2         0.08         0.04         0.03         0.644         0.880         0.715         0.781           NM_0212764, 2         0.08         0.04         0.03													
NM_057143         0.01         0.01         0.691         0.649           NM_013002         1.00         0.00         0.960         0.601           NM_013002         1.00         0.00         0.960         0.601           NM_013002         1.00         0.00         0.00         0.960         0.337           NM_013002         1.00         0.00         0.004         0.337           NM_0114716         -0.01         0.66         0.986         0.738           NM_01134750         -0.01         0.05         0.74         0.866         0.486         0.836           NM_01134750         -0.06         0.65         0.924         0.800         0.469         0.17         0.53         0.689           NM_0212264_/1         0.850         0.275         0.551         NM_0011270624         0.65         0.83         0.99         0.765           NM_021264_2         0.00							Mprip						
INM_001270538         0.00         0.00         0.960         0.601           NM_001184718         -0.01         0.07 <b>0.08</b> 0.986         0.738           NM_001184718         -0.01         0.07 <b>0.08</b> 0.986         0.738           NM_001134750         -0.01         0.057 <b>0.080</b> 0.986         0.738           NM_001134750         -0.01         0.057         0.501         0.744         0.060         0.646         0.40         0.46         0.40         0.43         0.330         0.833         0.880         0.775         NM_001270628         -0.10         0.46         0.40         0.43         0.330         0.833         0.990         NM_001134751         0.96         0.892         0.650         0.892         0.800         NM_001134751         0.96         0.82         0.800         NM_001134763         0.80         0.833         0.990         NM_001134751         0.60         0.60         0.765         NM_001134751         0.60         0.60         0.765         0.781         NM_001124768         0.83         0.933         0.913         0.821         0.805           NM_0212642_1         0.08         0.04         0.03         0.644         0.886													
NML 01202305         0.00         0.057         0.534         1.000           NM_ 001124750         -0.01         -0.06         0.05         0.059         0.01         0.057         0.024         0.031         0.068         0.075         0.01         0.057         0.024         0.01         0.057         0.024         0.030         0.089         0.758           NM_ 001134750         -0.01         -0.06         0.057         0.051         0.01         0							Nexn						
NM_001184718         -0.01         0.67         -0.68         0.996         0.738           NM_001134750         -0.01         0.33         0.88         0.486         0.836           NM_001134750         -0.01         -0.06         0.05         0.924         0.800           NM_001134750         0.05         0.17         -0.12         0.800         0.895           NM_001134751         0.06         0.890         0.755         0.765         0.776         0.778           NM_0212464_//224_/2         0.08         0.044         0.03         0.685         NM_001120064         0.66         0.63         0.020         0.765           NM_021264_1         0.86         0.275         0.651         0.776         0.778         0.785           NM_021264_2         0.00         0.00         0.00         1.000         1.000         0.00         0							i wali						
NM_001134750         0.01         0.38         0.486         0.836           NM_001134751         0.06         0.05         0.924         0.800           NM_001134751         0.05         0.17         -0.12         0.800         0.6924         0.800           NM_001134751         0.96         0.89         0.07         0.357         0.591         NM_021264         0.00         0.00         1.000           NM_021264_1         0.85         0.92         -0.06         0.275         0.651         NM_031079         0.25         0.63         0.02         0.46         0.689         0.769           NM_021264_1         0.85         0.92         -0.06         0.275         0.651         NM_031079         0.25         0.38         -0.13         0.821         0.864         0.779           NM_021264_3         0.07         0.00         0.00         1.000         NM_00100967         0.61         0.53         0.08         0.600         0.184           NM_00107592_1         0.00         0.00         0.071         0.843         0.856         0.001         0.001         0.001         0.001         0.001         0.001         0.000         0.001         0.000         0.000         0.001<								NM_001270626					
NM_01212606         1.01         0.33         0.66         0.486         0.836           NM_001134750         0.01         0.06         0.924         0.800           NM_001134751         0.05         0.17         -0.12         0.800         0.695           NM_021134751         0.06         0.00         1.000         1.000         1.000         0.46         0.44         0.43         0.333         0.689         0.765           NM_0212264         0.00         0.00         0.00         0.00         0.000         0.000         0.001         0.001         0.01         0.65         0.633         0.990         NM_001270604         0.65         0.63         0.020         0.683         0.990         NM_001134947         0.10         0.01         0.11         0.633         0.990         NM_001799         0.25         0.38         0.021         0.05         0.61         0.53         0.080         0.851								NM_001270627	-0.17	0.34	-0.51	0.757	0.758
NML_001134750         -0.01         -0.06         0.05         0.924         0.800           NML_001134750         0.05         0.17         -0.12         0.800         0.695           NML_001134753         0.96         0.89         0.07         0.357         0.591           NML_021264_/1         0.850         0.00         1.000         1.000         NML_001143847         0.10         0.01         0.10         0.633         0.990         0.765           NML_021264_/2         0.08         0.04         0.03         0.636         0.907         0.81         0.637         0.04         0.03         0.638         0.907           NM_021264_/2         0.00         0.00         0.00         1.000         1.000         NML_001109967         0.61         0.53         0.02         0.481         0.850         0.01         0.02         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.00         0.00         0.00         0.00         0.00 <td></td> <td>1.01</td> <td>0.33</td> <td>0.68</td> <td></td> <td>0.836</td> <td>Nsmf</td> <td></td> <td></td> <td>0.08</td> <td></td> <td></td> <td></td>		1.01	0.33	0.68		0.836	Nsmf			0.08			
NM_001134751         0.05         0.17         -0.12         0.800         0.695           NM_02134751         0.96         0.88         0.07         0.357         0.54         -0.30         0.699         0.765           NM_021264         0.00         0.00         1.000         1.000         1.000         1.000         1.000         0.653         0.990         0.841         0.879         0.841         0.879         0.25         0.38         -0.01         0.11         0.663         0.623         0.0990         NM_001270604         0.650         0.623         0.029         0.841         0.879         0.25         0.38         0.013         0.821         0.805           NM_021264_4         0.00         0.00         0.00         1.000         0.00 <td></td> <td>-0.01</td> <td></td>		-0.01											
NNL 001134753         0.96         0.88         0.07         0.357         0.591           NM_021264_1         0.00         0.00         0.00         1.000	NM_001134751												
NM_021284_1         0.00         0.00         1.000         1.000           NM_021284_1         0.85         0.92         -0.66         0.275         0.651           NM_021284_2         0.08         0.04         0.03         0.686         0.907           NM_021284_4         0.00         0.03         0.686         0.907           NM_021284_4         0.00	NM_001134753	0.96											
NM_021264_1         0.85         0.92         -0.06         0.275         0.651           NM_021264_2         0.08         0.04         0.03         0.636         0.907           NM_021264_3         0.07         0.44         0.03         0.684         0.888           NM_021264_4         0.00         0.01         0.01         0.01         0.01         0.01         0.02         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.00							Pde2a						
NM_021284_2         0.08         0.04         0.03         0.638         0.907           NM_021284_4         0.00         0.00         0.00         1.000         1.000         1.000         0.39         0.47         -0.08         0.71         0.600         0.733           NM_021284_4         0.00         0.00         0.00         1.000         1.000         1.000         1.000         1.000         0.39         0.47         -0.08         0.715         0.373           NM_001077592_1         0.00         0.00         0.00         0.01         0.686         0.84         0.85         0.01         0.12         -0.10         1.000<							-ueza						
NM_021284_3         0.07         0.04         0.03         0.644         0.888           NM_021284_4         0.00         0.00         1.000         1.000         1.001         0.01         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.001         0.000         0.000         0.000         0.001         <													
NM_021284_4         0.00         0.00         1.000         1.000           NM_001077592_1         0.00         0.00         0.00         0.866           NM_001077592_1         0.00         0.00         0.00         0.866           NM_001077592_1         0.00         0.00         0.00         0.866           NM_001077592_1         0.00         0.00         0.035         0.866           NM_130432_1         0.00         0.00         <							Pip5k1c						
NM_001077592         0.00         0.00         0.761         0.83           NM_001077592         0.00         0.00         0.836         0.856         0.01         0.12         -0.10         1.000         0.0													
NM_001077592_1         0.00         0.00         0.886         0.886         NM_001707592_1         0.01         0.00         0.00         0.00         0.01         0.01         0.00         0.00         0.00         0.01         0.00 <th< td=""><td></td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.704</td><td>0.040</td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td></th<>		0.00	0.00	0.00	0.704	0.040		-					
INM_001077592_2         1.00         0.00         0.073         0.155           NM_1001077592_2         0.01         0.01         0.01         0.01         0.01         0.00         1.000	NM 001077502												
NM_00107392_2         1.00         0.00         0.00         0.00         0.00         0.00         0.00         1.000           NM_130432_1         0.01         0.01         -0.01         0.873         0.733         0.733         0.733         0.733         0.733         0.733         0.733         0.733         0.733         0.733         0.733         0.770         NM_001164302         0.00         0.00         0.00         0.00         0.00         1.000								NM_001164298	0.04	0.01	0.02	1.000	
NM_0130432_1         0.00         0.00								NM_001164299	0.00	0.00		1.000	
NM_022872         0.01         0.01         0.01         0.01         0.01         0.01         0.001         0													
NM_0222672_1         0.97         0.96         0.01         0.055         0.707           NM_0222672_1         0.03         0.04         -0.01         0.765         0.924           NM_001305443         0.33         0.27         0.06         0.188         0.602           NM_001305443         0.37         0.06         0.188         0.602           NM_001682549         0.04         -0.01         0.21         0.881         0.638           NM_001124768         0.96         1.17         -0.21         0.216         0.645           NM_001124769         -0.02         -0.05         0.03         0.254         0.568           NM_001124769         -0.02         -0.05         0.03         0.956         0.967           NM_001124769         -0.02         -0.02         0.00         1.000         1.000           NM_001124770         0.01         0.20         0.027         0.835         0.856           NM_001126551         -0.02         0.00         -0.02         0.000         1.000         0.026           NM_0011270561         -0.02         0.00         -0.02         0.000         1.000         0.702           NM_001270563         0.05							Plec						
NM_001305443         0.03         0.02         0.00         0.01         0.01         0.01         0.01         0.01         0.00         0.04         0.710         1.000         1.000           NM_001305443         0.33         0.27         0.06         0.188         0.602         NM_00182549         0.04         0.710         1.000         1.000         1.000         0.00         0.00         0.00         0.00         0.00         0.00         1.0													
NM_001305443         0.33         0.27         0.06         0.188         0.602           NM_003113         0.67         0.73         -0.06         0.184         0.428           NM_001082549         0.04         -0.17         0.21         0.881         0.638           NM_001124768         0.096         1.17         -0.21         0.881         0.635           NM_001124769         -0.02         -0.05         0.03         0.956         0.967           NM_0011270561         -0.02         0.00         -0.02         1.000         1.000           NM_001270561         -0.02         0.00         -0.02         1.000         1.000           NM_001270563         0.05         0.11         -0.07         0.849         0.669           NM_001270563         0.02         -0.10         0.124         0.447           NM_01133440         0.10         0.01         0.02         0.													
NM_031113         0.67         0.73         -0.06         0.134         0.428           NM_001824         0.64         -0.17         0.21         0.881         0.633         0.00         0.00         0.00         1.000         1.000           NM_001264         0.64         -0.17         0.21         0.881         0.683         0.04         0.00         0.00         0.00         1.000         1.000         1.000           NM_001124769         -0.02         -0.05         0.03         0.966         0.967         0.03         0.21         0.27         0.15         0.050         0.091         0.00													
NM_001082549         0.04         -0.17         0.21         0.881         0.638           NM_00124768         0.96         1.17         -0.21         0.281         0.638           NM_00124768         0.70         0.67         0.03         0.243         0.568           NM_001124769         -0.02         -0.05         0.03         0.956         0.967           NM_001124769         0.01         0.22         -0.05         0.03         0.956         0.967           NM_001124769         0.01         0.202         -0.05         0.03         0.956         0.967           NM_001124769         0.01         0.202         -0.05         0.03         0.956         0.967           NM_001127651         -0.02         0.00         1.000         1.000         0.002         0.005         0.001           NM_0011270561         -0.02         0.00         -0.02         0.000         1.000         0.820           NM_001270561         -0.02         0.00         -0.02         0.050         0.051         0.056           NM_001270563         0.05         0.11         -0.07         0.849         0.669         NM_0014133         0.47         0.84         -0.03         0.0	NM_031113	0.67	0.73	-0.06									
INM_199087         0.96         1.17         -0.21         0.21         0.21         0.21         0.21         0.21         0.22         0.50         0.000         1.000         1.000           NM_001124769         -0.02         -0.05         0.03         0.966         0.967         0.87         -0.15         0.728         0.520         0.500         0.000         0.020         0.050         0.091           NM_001124769         -0.02         -0.05         0.03         0.966         0.967         0.827         NM_001105753         0.00         0.001         0.010         0.000         0.025         0.091           NM_01270561         -0.02         0.000         -0.02         1.000         1.000         1.000         NM_001170531         1.000         1.000         0.025         0.070           NM_01270561         -0.02         0.001         0.021         0.001         1.000         1.000         1.000         0.728         0.032         0.066         -0.031         1.000         0.070           NM_001270563         0.05         0.11         -0.07         0.849         0.669         NM_0133440         0.03         0.066         -0.03         1.000         1.000         0.020													
NM_001124768         0.70         0.67         0.03         0.234         0.568         NM_0012713203         0.21         0.57         40.13         0.15         0.505         0.02         0.02         0.02         0.0129769         0.02         0.012         0.012         0.012713         0.79         0.63         0.15         0.050         0.01         0.02         0.019         0.976         0.827           NM_01270561         0.01         0.02         0.019         0.976         0.827         NM_001270561         1.00         1.01         0.005         0.005         0.005         0.000         0.001         0.000         0.005         0.0070         NM_00127058         0.02         0.03         0.006         0.005         0.005         0.005         0.005         0.005         0.005         0.005         0.0070         NM_00127058         0.03         0.006         0.005         0.005 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td></td<>													
NNL 001124769         -0.02         -0.05         0.03         0.956         0.967           NNL 001124770         0.01         0.20         -0.16         0.976         0.827           NNL 012666         0.31         0.18         0.13         0.515         0.835           NNL 001270561         -0.02         0.00         -0.02         1.000         1.000         0.070           NNL 001270561         -0.02         0.00         -0.02         1.000         1.000         1.000         0.70           NNL 001270561         -0.02         0.00         -0.02         1.000         1.000         0.70           NNL 001270563         0.05         0.11         -0.07         0.849         0.669           NNL 001270563         0.02         0.07         0.849         0.669           NNL 001270563         0.02         0.07         0.447           NNL 001270563         0.02         0.07         0.447           NNL 001270563         0.02         0.07         0.447           NM_ 00104133         0.47         0.84         0.037         0.44         0.01         0.04         0.00         0.005         0.055           NM_ 01040133         0.47 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>Prkcb</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							Prkcb						
NM_001124770         0.01         0.20         -0.19         0.976         0.827           NM_012666         0.31         0.18         0.13         0.515         0.835           NM_001270561         -0.02         0.00         -0.02         1.001         1.00         1.005         0.070         0.822           NM_001270561         -0.02         0.000         -0.02         1.000         1.001         -0.01         0.005         0.070           NM_001270562         0.94         0.71         0.23         0.018         0.250         NM_0201270583         0.02         0.03         0.005         0.000         0.720           NM_001270563         0.02         0.11         -0.01         0.044         0.669         NM_021440         0.481         0.01         0.04         -0.04         1.000         1.000         1.000         1.000         1.000         0.720           NM_001105169         1.10         1.20         -0.10         0.144         0.487         NM_021350         0.38         0.01         0.04         0.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000         1.000													
NM_012666         0.31         0.18         0.13         0.515         0.835           NM_001270561         -0.02         0.00         -0.02         1.000         1.000         0.005							Rasorf1						
NM_012066         0.31         0.18         0.13         0.635         0.645         0.635         0.645         0.645         0.645         0.645         0.645         0.645         0.645         0.645         0.645         0.645         0.645         0.645         0.645         0.646         0.638         0.611         0.49         0.610         0.645           NM_01135169         1.10         1.20         -0.10         0.144         0.487         0.864         0.88         -0.11         0.498         0.515         0.5551           NM_134395         -0.10         -0.20         0.10         0.738         0.782         NM_201270788         0.00         0.00         0.00         0.044         1.000							nasym	NM_001170531	1.00	1.01	-0.01	0.005	0.070
NM_001270561         -0.02         0.00         -0.02         1.000         -0.02         NM0         0.02708         0.03         0.06         -0.03         1.000         0.720           NM_001270563         0.94         0.71         0.250         0.94         0.669         NM         0.01004133         0.47         0.84         0.37         0.140         0.487           NM_001270563         0.02         0.17         -0.15         0.924         0.645         NM_133440         0.01         0.04         -0.04         1.000         1.000         1.000         1.000         1.000         0.05         0.01         0.04         0.04         0.04         0.04         0.04         0.00         1.000         1.000         1.000         1.000         1.000         1.000         1.000         0.06         0.06         0.08         0.515         0.565           NM_1334395         -0.10         0.20         0.10         0.738         0.782         NM_201270788         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00							Dur2		0.97	0.94	0.03	0.005	0.004
NM_001270562         0.94         0.71         0.23         0.016         0.250           NM_001270563         0.05         0.11         -0.07         0.849         0.669           NM_022563         0.02         0.17         -0.15         0.924         0.645           NM_01135169         1.10         1.20         -0.10         0.144         0.487           NM_134395         -0.10         -0.20         0.10         0.738         0.782           Shank2         NM_001270768         0.00         0.00         0.94         1.000	NM_001270561						Ryr2						
NM_022593         0.05         0.17         -0.16         0.949         0.059         0.059         0.02         0.01         0.04         -0.04         1.000													
NM_001135169         0.10         0.20         0.10         0.24         0.487           NM_134395         -0.10         -0.20         0.10         0.738         0.782         NM_201270788         0.00         0.00         0.944         1.009	NM_001270563												
NM_201350         0.10         0.10         0.144         0.407           NM_134395         -0.10         -0.20         0.10         0.738         0.782							Shank2						
NW_134395 -0.10 -0.20 0.10 0.738 0.782 Sto 25.33 NM_001270788 0.00 0.00 0.00 0.944 1.000	NM_001135169												
SI22533 NM_001270788 0.00 0.00 0.944 1.000	NM_134395												
							Slc25a3	NM_001270788 NM_139100	0.00	0.00			

 0.00
 0.00
 0.00
 0.944
 1.000

 1.00
 1.00
 0.00
 0.018
 0.004

а					
			log <sub>2</sub> (fold change)	adj. p value	contr scor
	Gene	transcript	Trained	vs contro	l axon
	Snx27	NM_152847	-0.99	0.021	5.99
	Shx27	NM_001110151	0.82	0.401	-4.9
	Casa	NM_001108802	-1.43	0.009	1.14
	Speg	NM_012905	0.17	0.781	-0.1
	Gng2	NM_031754	0.80	0.033	2.5
	Gligz	NM_001257349	-0.49	0.523	-1.5
			Control	cortex vs	axon
	Gria2	NM_001083811	1.53	0.001	3.78
	Gilaz	NM_017261	-1.12	0.026	-2.7

trib. ore 99 14 14 55 55 18 78 Contribution score (a) (b-c) 5

0

b

Upregulated axons/ downro cortex

ge

Apoe

Arpp19

Calm2

Calv

Chchd10

Dpy30

Fau

Fkbp2

Gpx4

Hcfc1r1

Hnrnpa3

Hnrnpd

Klc1

LOC100233176

Mif

Mrps21

Naca Ndufv3

Oxr1

Park7

Pcp4

Pfdn6

Pnkd

Rpl35a

Rpl38

Rps13

Rps14

Rps27a Spint2

Tac1

Tceb1

Tmem14c

0

Supplementary Figure 9. Transcript-level analysis. The contribution score (change in FPKM transcript/change in FPKM gene) indicates the effect of learning on a transcript relative to the net effect on all transcripts of the same gene, with a negative score indicating differences in opposite directions between the transcript and gene. Adjusted p-values for each transcript are highlighted at <0.05. a) Three transcripts were found to be regulated by learning in the axons that were not differentially expressed at the gene level. In each case, a second transcript was affected non-significantly in the opposite direction. The two transcripts of *Gria2* were differently distributed in the control group, with one enriched in axons and the other in cortex. b-c) Genes regulated in both axons and cortex (b; upregulated in axons/downregulated in cortex, c; downregulated in axons/upregulated in cortex) with multiple transcripts in the dataset. The difference between the score in the axons and cortex ("axons – cortex") indicates the degree of asymmetry, with positive numbers indicating transcripts that were affected proportionally more in the axons than cortex. Values near zero indicate transcripts that were similarly affected in both areas. Transcripts with significant effects in both areas are shown in bold type.