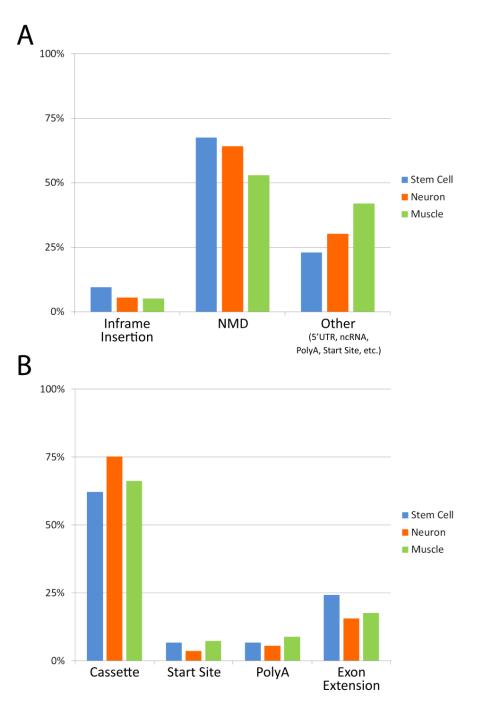
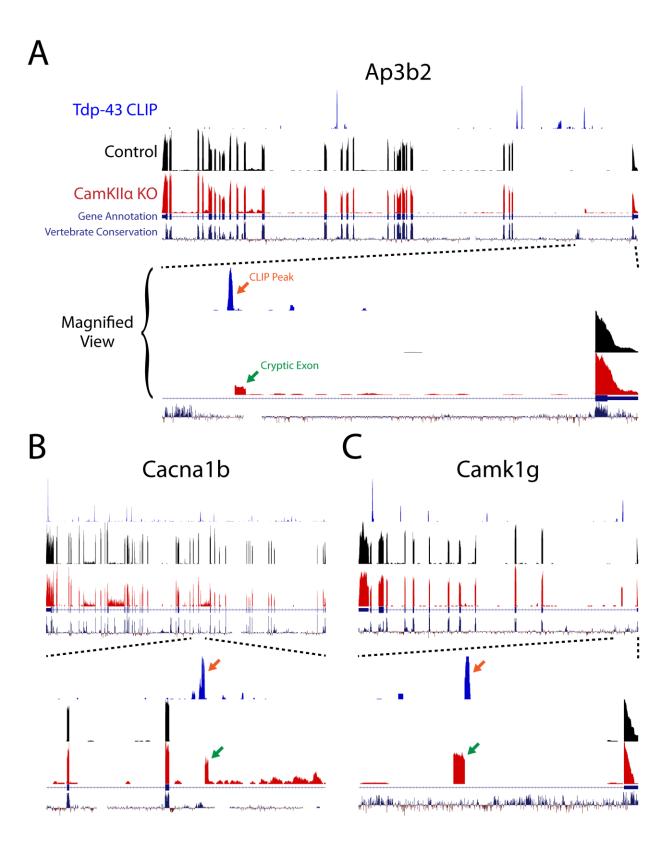
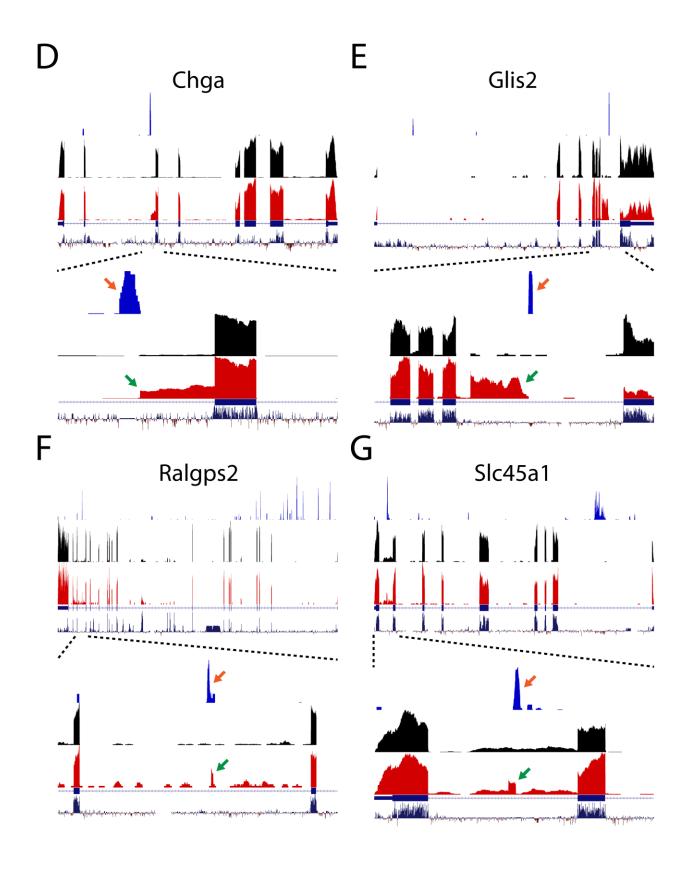
## **Supplemental Data**



**Fig. S1.** Classification of stem cell, neuron and muscle cryptic exons associated with Tdp-43 loss of function. (*A*) Functional effect of cryptic exons on mRNA. (*B*) General grouping of cryptic exons (cassette exons, alternate start sites, alternate polyadenylation sites, and exon extensions—i.e. alternate 5' or 3' splice site utilization).





**Fig. S2.** HITS-CLIP peaks correlate with cryptic exons identified in  $CaMKII\alpha$ -Cre; $Tardbp^{F/F}$  knockout mice. HITS-CLIP was previously performed to identify Tdp-43's direct targets in mouse brain (18). (A to G) HITS-CLIP clusters (orange arrows) are adjacent to Tdp-43 cryptic exons (green arrows).

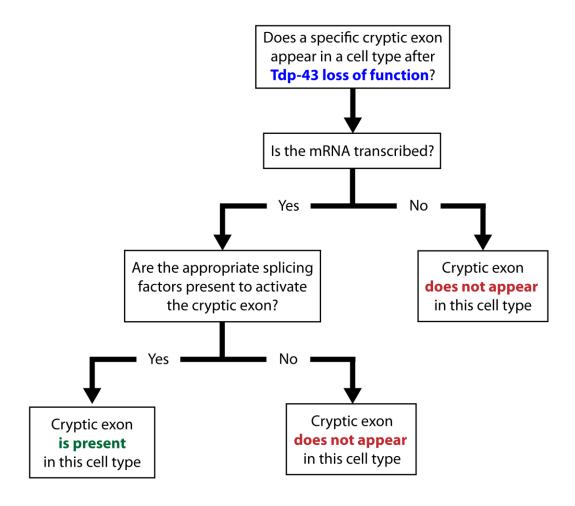
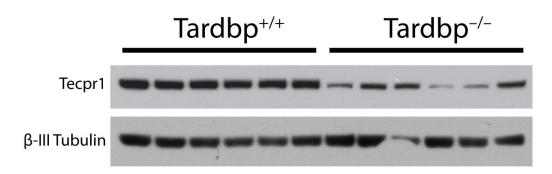


Fig. S3. Putative flow chart that governs whether a cryptic exon appears in a specific cell type.



**Fig. S4.** Immunoblot with whole brain extracts from 8mo old female *CamKIIa-Cre*; *Tardbp*<sup>F/F</sup> knockout mice and controls. After Tdp-43 deletion, the incorporation of a cryptic exon in Tecpr1 leads to nonsense-mediated decay and a reduction in the protein levels of Tecpr1.

Gene Symbol	Gene Name	Stem Cell	Neuron	Muscle	Keywords
Pafah2	Platelet-Activating Factor Acetylhydrolase 2, 40kDa				Phospholipid lipase; metabolism
Cacna1b	Voltage-Gated Calcium Channel Subunit Alpha Cav2.2				Voltage-sensitive calcium channel subunit
Crlf1	Cytokine Receptor-Like Factor 1				Cytokine receptor subunit; neuronal survival and development
xyd2	FXYD Domain Containing Ion Transport Regulator 2				Sodium ATPase subunit gamma
Glis2	GLIS Family Zinc Finger 2				Transcription factor; neuron differentiation
Ralgps2	Ral GEF With PH Domain And SH3 Binding Motif 2				Guanine nucleotide exchange factor; cytoskeletal organization
lit3	Slit Guidance Ligand 3				Axon guidance
Cluh	Clustered Mitochondria (CluA/CLU1) Homolog				Mitochondrial distribution and biogenesis
ctn2	Tectonic Family Member 2				Hedgehog signaling
lc45a1	Solute Carrier Family 45, Member 1				pH dependent glucose uptake
tfx1	MHC Class II Regulatory Factor RFX				Regulator of MHC class II gene expression
Inc13a	Unc-13 Homolog A (C. Elegans)				Neurotransmitter release
nk3	Ankyrin 3, Node Of Ranvier (Ankyrin G)				Regulates nodes of Ranvier and axonal initial segments
lggt2	UDP-Glucose Glycoprotein Glucosyltransferase 2				Reglucosylates unfolded glycoproteins; protein quality control
	Numb Homolog (Drosophila)-Like				Neurogenesis; neural progenitor cell maintenance
itpnm3	PITPNM Family Member 3				Membrane lipid transfer
alrn	Kalirin, RhoGEF Kinase				Rho guanine nucleotide exchange factor; synapse remodeling
	RAS Protein Activator Like 1 (GAP1 Like)				Suppressor of Ras signaling; cell proliferation and differentiation
leis2	Meis Homeobox 2				Homeobox transcription factor
elf5	CUGBP, Elav-Like Family Member 5				RNA-binding protein; pre-mRNA splicing
cnmb4	Big Potassium Channel Beta Subunit 4				Calcium activated potassium channel regulatory subunit
ltrk3	Neurotrophic Tyrosine Kinase, Receptor, Type 3				Neurotrophin signaling
p3b2	Adaptor-Related Protein Complex 3, Beta 2 Subunit				Neuron-specific AP3 vesicle-coat protein complex
hga	Chromogranin A				Neuroendocrine secretory protein
	GalNAc Alpha-2,6-Sialyltransferase V				Cell surface sialyltransferase
1rps27	Mitochondrial Ribosomal Protein S27				Mitochondrial ribosomal protein
br	Active BCR-Related	+			GTPase-activating protein; vestibular morphogenesis
ub	Tubby Bipartite Transcription Factor	+			Transcription factor; G protein signal transduction
lg3	Discs, Large Homolog 3 (Drosophila)				NMDA receptor clustering; learning and synaptic plasticity
atk	Apoptosis-Associated Tyrosine Kinase	1			Neuronal differentiation
рр3са	Protein Phosphatase 3, Catalytic Subunit, Alpha Isozyme	+			Calcium-dependent protein phosphatase
x3cl1	Chemokine (C-X3-C Motif) Ligand 1	+			Chemotactic for leukocyte adhesion
k5	Adenylate Kinase 5	+			Brain-specific adenylate kinase
sbp2	Single-Stranded DNA Binding Protein 2	+			Genome stability
6k1	Inositol Hexakisphosphate Kinase 1	+			Inositol phosphokinase
dd2	Adducin 2 (Beta)	+			Promotes assembly of spectrin-actin network

**Table S1.** Neuron-specific cryptic exons impact a unique set of pathways (refer to Excel Data Table for list of cryptic exons).

Gene Symbol	Gene Name	Stem Cell	Neuron	Muscle	Keywords
II17b	Interleukin 17B				T cell-derived cytokine, similar to IL17
lmmp2l	Inner Mitochondrial Membrane Peptidase Subunit 2				Catalyzes removal of mitochondrial signal peptide sequence
Mad2l1bp	MAD2L1 Binding Protein				Regulator of late mitosis
Rhox3h	Reproductive homeobox 3H				Homeobox transcription factor
Dysf	Dysferlin				Congenital myopathies; Ca(2+) sensor; membrane regeneration and repair
Zbtb16	Zinc Finger And BTB Domain Containing 16				Transcription factor involved in cell cycle progression
Tns1	Tensin 1				Cell migration; focal adhesions and cytoskeleton mediated signal transduction
Sec63	SEC63 Homolog, Protein Translocation Regulator				Endoplasmic reticulum protein translocation
Irf2	Interferon Regulatory Factor 2				Interferon regulatory transcription factor
Chd1	ATP-Dependent Helicase CHD1				ATP-dependent chromatin remodeling; transcription
Plcl1	Phospholipase C-Like 1				Inositol phospholipid-based intracellular signaling; no phospholipase activity
Mlxipl	MLX Interacting Protein-Like				Transcriptional repressor
Scn4a	Sodium Channel Protein Type IV Subunit Alpha				Voltage-gated sodium channel
Tep1	Telomerase-Associated Protein 1				Telomerase ribonucleoprotein complex
Ptpn3	Protein Tyrosine Phosphatase, Non-Receptor Type 3				Tyrosine phosphatase; cytoskeletal regulation
Sgcd	Sarcoglycan, Delta				Dystrophin-glycoprotein complex; muscular dystrophy; dilated cardiomyopathy
Eif4g3	Eukaryotic Translation Initiation Factor 4 Gamma, 3				Probable translation initiation factor
Afap1l1	Actin Filament Associated Protein 1-Like 1				May be involved in podosome and invadosome formation
Lnpep	Leucyl/Cystinyl Aminopeptidase			П	Aminopeptidase that cleaves peptide hormones
Npepps	Aminopeptidase Puromycin Sensitive				Peptidase with broad specificity; regulates cell growth and viability
Sema3c	Semaphorin-E				Semaphorin receptor binding
Abcc9	Sulfonylurea Receptor 2				ATP-sensitive potassium channels; cardiomyopathy dilated type 10
Pard3	Par-3 Family Cell Polarity Regulator				Asymmetrical cell division and cell polarization
Abhd16a	Abhydrolase Domain Containing 16A			П	MHC Class III; immunity
Nudt7	Nucleoside Diphosphate-Linked Moiety X Motif 7				Cleaves coenzyme A; Nudix hydrolase family
Coq10a	Coenzyme Q10A				Coenzyme Q chaperone; oxidative respiration
Epn1	Epsin 1				Clathrin vesicle binding; endocytosis
Rsu1	Ras Suppressor Protein 1				Ras signal transduction pathway
Pxn	Paxillin				Cytoskeletal protein; cell adhesion
Nxn	Nucleoredoxin				Redox-dependent negative regulator of Wnt signaling
Pgpep1	Pyroglutamyl-Peptidase I				Hydrolyzes N-terminal pyroglutamyl residues
Lmcd1	LIM And Cysteine-Rich Domains 1				Transcriptional cofactor
Trim55	Tripartite Motif Containing 55			П	Gene expression and protein turnover in muscle cells
Tnrc6b	Trinucleotide Repeat Containing 6B			П	RNA-mediated gene silencing
Cgrrf1	Cell Growth Regulatory Gene 19 Protein				Able to inhibit growth in several cell lines
Chac1	Cation Transport Regulator-Like Protein 1				Glutathione depletion; apoptosis initiation; Notch signaling
Erp44	Endoplasmic Reticulum Protein 44				Retention in early secretory pathway, endoplasmic reticulum
Trappc9	Trafficking Protein Particle Complex 9				Activator of NF-kB signaling
Nedd4	Cell Proliferation-Inducing Gene 53 Protein	1			E3 ubiquitin-protein ligase; lysosome degradation
Fto	Fat Mass And Obesity Associated				Dioxygenase, repair of alkylated DNA and RNA; body size and fat regulation
Ccndbp1	Cyclin D-Type Binding-Protein 1				Cyclin D; may negatively regulate cell cycle progression
Ndufv2	NADH-Ubiquinone Oxidoreductase 24 KDa Subunit				Core subunit of mitochondrial complex I
Acyp2	Acylphosphatase 2, Muscle Type				Acylphosphatase activity, membrane pumps (Ca2+/Mg2+-ATPase)
			Me Lov	diu v I	Incorporation  Im Incorporation  Incorporation  Incorporation  Incorporation

**Table S2.** Muscle-specific cryptic exons impact a unique set of pathways (refer to Excel Data Table for list of cryptic exons).

Gene Symbol	Gene Name	Stem Cell	Neuron	Muscle	Keywords
Spata7	Spermatogenesis Associated 7				Retinal dystrophy; spermatogenesis
Spcs2	Signal Peptidase Complex Subunit 2 Homolog (S. Cerevisiae)				Microsomal signal peptidase complex
Hace1	HECT Domain And Ankyrin Repeat Containing E3 Ubiquitin Protein Ligase 1				E3 ubiquitin ligase; Golgi regulation
Kctd10	Potassium Channel Tetramerization Domain Containing 10				Cell proliferation
Fam96a	Family With Sequence Similarity 96, Member A				Chromosome segregation
Gsta4	Glutathione S-Transferase Alpha 4				Cellular detoxification
Tnfaip1	Tumor Necrosis Factor, Alpha-Induced Protein 1 (Endothelial)				Cytoskeleton structure; cell migration
Lrrc49	Leucine Rich Repeat Containing 49				Microtubule regulation
R3hdm2	R3H Domain Containing 2				Nucleic acid binding
Sh3bgr	SH3 Domain Binding Glutamate-Rich Protein				SH3 domain binding
Hps5	Hermansky-Pudlak Syndrome 5				Vesicular trafficking
Dnaja2	DnaJ (Hsp40) Homolog, Subfamily A, Member 2				Hsc70 co-chaperone
Psap	Prosaposin				Precursor for saposins A, B, C and D
	High Incorporation  Medium Incorporation				poration

Table S3. Mouse cryptic exons predicted to introduce inframe insertions into mRNA.

Mcoln1 Mrps6	Letm1	Ahnak	Floh	Sptbn4	Fam21	Tnfaip1	Ercc6	Zfn13	Zfn809	Snapcs	TdPJaN	Nocal	GStd4	Getal	Atraid	ram/sa	CTPIPAC	Uggt2	Trim8	Pir	Edem2	Lmbr1	Fam96a	Ppap2a	Cluh	Ppp6c	Ube2d1	Tnks2	Mettl6	Gtt2e2	Mettl10	Nme6	Uggt2	Kctd10	Rap1b	Radil	Vps13d	lft81	Abr	Hace1	A230046K03Rik	Crem	Special	Rtfdc1	Adnp2	lft81	Hdac4	Smg5	Smg5	Mier1	Spata/	Pno1	2610507B11Rik	Synj2bp	Brms1l	ngsnat	Sars	Wbscr22	Rrp36	3110009E18Rik	Tecpr1	Pycr2	Slc7a6	Ptcd2	Chd1I	Adipor2	Usp15	Usp15	Tbc1d1	Pnpla6	Gene Symbol	
uc009krq.1 uc007zyu.1	uc008xbi.1	uc008goj.1	uc01ZeWu.1	uc009fwa.1	uc009djs.2	uc007kjr.2	uc007sze.1	uc008ash 2		Ι.	- 1	- -	ucoosqty.z	ucoococ. I	ucOO8ahc 1	ucoustre.2	T.PIIZTTOON	ucou/uzj.2	uc008hts.1	uc009uvl.2	uc008nlg.2	uc008wug.1	uc009qel.1	uc007rwr.1	uc007kca.1	uc008joi.1	uc007foo.2	uc008hhu.2	uc007sxq.1	uc009lki.2	uc009kcm.1	uc009rst.1	uc007uzj.2	uc008yzm.2	uc007hdr.1	uc009ait.1	uc012dox.1	uc008zlm.2	uc007kft.1	uc007fad 2	iic007aki 1	ucoosiiiu.1	ucoorania.z	uc008ocw.1	uc008fsk.1	uc008zlm.2	uc007cbf.1	uc008put.1	uc008put.1	uc008txi.1	uc007ora.1	uc007icc.1	uc007kir.2	uc007oca.1	uc007npa.1	ucoograh 1	ucou8qzb.1	uc008zxm.1	uc008ctu.1	uc007cjh.2	uc009alj.1	uc007dwv.2	uc009nfm.1	uc007rpm.1	uc008qow.1	uc009dme.1	uc007hgo.1	uc007hgo.1	uc008xmm.1	uc009krr.1	UCSC ID	
chr8:3513301-3513555 chr16:92096292-92096397	chr5:34122223-34122253	chr19:9064934-9065298	chr14:8767880-8768447	chr7:28180377-28180650	chr6:116191061-116191169	chr11:78342265-78342360	chr14:33355101-33355215	chr17:23721716-23721905	chr9:22040980-22041097	CDF4:83083491-83083627	chr4.93083401 83083637	chr6:133935543:133935633	chr3:74373673-74373735	Chr9-78055004-78055045	chr18:10769157-10769215	CDF3:151959521-1519596/5	CII 14:0122100Z-01221229	chr14:119399951-119400486	chr19:46577504-46581418	chrX:160707610-160707645	chr2:155544126-155545223	chr5:29672685-29672822	chr9:65985845-65985946	chr13:113596569-113596634	chr11:74463197-74463680	chr2:39056407-39060352	chr10:70726333-70726465	chr19:36951510-36953724	chr14:32302355-32302505	chr8:34848447-34849451	chr7:140026312-140026364	chr9:109740387-109740534	chr14:119399951-119400992	chr5:114826780-114826875	chr10:117253243-117253402	chr5:142983773-142983862	chr4:144689255-144689366	chr5:123006942-123007000	chr11:76278083-76282079	chr10:45359574-45359609	chr10:83023672-83023869	chr18:3778079-3778738	chr7:10700493-107005034	chr2:172290952-172291773	chr18:80334892-80335043	chr5:123006915-123007000	chr1:94038097-94038158	chr3:88144571-88144685	chr3:88144571-88144780	chr4:102834377-102834447	chr12:99872801-99872854	chr11:17108384-17108667	chr11:78077562-78077768	chr12:82610794-82611038	chr12:56964161-56966078	chr6:5/036421-2/036466	cnr3:108245655-108245759	chr5:135539651-135539753	chr17:46810105-46810288	chr1:122022910-122022969	chr5:144976607-144976659	chr1:182834662-182834702	chr8:108692855-108693156	chr13:100096403-100096525	chr3:97395284-97395697	chr6:119319878-119319936	chr10:122588018-122600648	chr10:122588018-122588181	chr5:64731056-64731165	chr8:3524948-3525233	(mm9)	Cryptic Exon Location
255 106	31	365	568	274	109	96	115	190	118	130	137	9 4	7 4 7	43	7 %	CCT	100	536	3915	36	1098	138	102	66	484	3946	133	2215	151	1005	53	148	1042	96	160	90	112	59	3997	36	198	160	100	1706	152	86	62	115	210	71	2 5	284	207	245	1918	97	105	103	184	60	53	41	302	123	414	59	12631	164	110		Exon (bp) St	
		۷ .	< -	< ~	~	~	۷.	<	< -	< -	< -	< -	< -	< -	< -	< -	-	< -		~	~	~	-	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	۷ .	< -	< -	< -	< -	< ~	~	~	~	~	۷ .	< -	< -	< ~	~	~	< -	< -	< -		~	~	~	~	4	4	4	~	~	4	۷ .	٧	Stem Cell Neuron Myocyte	esent in Pr
< <	4							_			_																						~	~	~	4	~	~	۷.	۷ .	< -	< -	< -	< -<	~	4	4	Υ	۷.	< -	< <	< ~	~	~	۷ -	< -	< -		~	~	~	~	4	4	4	4	Y	~	۷ .	4	Neuron 1	resent in P
~ ~	4	_									-				_		-	4	-	4	~	4	*		4	4	4	4	Y	4	4	4									-	< -	< -	< -<	4	4	4	4	۷.	<b>-</b>	<		4	~	۷ -	< -		-	~	4	4	4	4	Y	٧	4	Υ	4	٧.	4	Луосуte Ir	resent in Ir
		~		~	Н	4					+		-	•	+					~			~											_	3'UTR					<		-	<							+	_	¢				+				~											Ins. UTR S	,
		~		_			-	< -	<			+	+		+		-	<												~												<								+	+		Н	~		+							4						-	<	ite A E	art Poly E
~ ~	~	z .	< 2	zz	Υ	z	<b>~</b> ;	2 2	2 4	< -	< -	< -	< 2	z -	< ~	× *	. 2	2 ~	- Z	Z	~	4	z	. ~	٧ ٧	Y	4	~ ~	4	z	~	~	Y	z	z	Υ	~	4	<b>~</b> ;	z .	< 2	2 2	z -	< ~	· ·	4	Y	Υ	~ ;	z -	< Z	2 ~	Y	z	× -	< 2	. ~	×	-	z	~	Υ Υ	z	4	Y	4	Y	γ	۷ :	z	Site A Ext. NMD	kon   Predict
: :	:	7	12	42	5	16	300	36	28	25	0 1	11	10	ی م	22 18	32	: t	34	57	45	48	11	2	9	37	33	71	3	10	32	00	19	68	34	2	25	18	22	32	51	80 60	100	15	2	96	29	26	33	26	11	23	9	26	79	9	s :	; -	35	13	67	98	13	44	23	4	74	86	82	64		Cryptic PSI	
10	32		: :	:		:	:	:	: :		;					:	,	:	:	:	:		,	:	:	:	:		:	:			30	33	7	100	46	21	4	30	20 6	20 00	20	3 5	76	41	20	24	19	19	100	2	1	72	21	47	2 4	23	26	33	35	49	59	11	52	13	14	14	44		_	Neuron
10	ъ				,		:											35	37	38	57	66	00	. 9	20	27	46	10	15	00	63	27				:			1		: 8	8 4	0 4	4 1	100	28	100	68	68 6	30	36	11	30	99	81 2	33 45	; ::	40	9	23	52	5	92	77	75	36	39	39	22	_	SI Cryptic PSI	
: :	:	24.0	22.8	2.6	41.9	6.5	3.1	12.8	14.8	0.2	00.0	3.0	2.000	50.5	10.1	15.4	0.0	5.0	28.4	14.1	9.9	3.4	55.3	42.3	13.7	49.4	5.9	148.4	20.7	45.9	21.9	25.7	6.0	11.1	52.8	4.6	6.8	5.7	8.7	10.5	29.1	000	305	33.0	27.7	5.7	1.0	41.7	41.7	10.2	11.5	89.0	55.0	17.2	15.7	24.5	238./	64.3	35.1	5.2	2.9	124.4	11.2	34.7	23.0	76.3	17.9	17.9	0.5		CTRL (FPKM)	
: :		125.	40.3	3.6	56.2	8.6	3.6	13.0	146	0.0	3.E	21.0	20.0	376	5.5	4.1	0.0	13.5	45.3	20.4	13.0	4.0	60.7	45.2	11.6	41.8	4.8	118.3	15.9	29.5	12.5	12.0	13.5	18.5	59.6	4.8	7.0	5.5	6.5	77	2 5	0.00	36.9	33.7	28.2	5.5	1.0	39.1	39.1	9.5	10.5	72.6	42.8	13.1	11.9	18.1	1/3.3	46.6	25.1	3.7	1.9	77.0	6.2	14.9	9.8	23.8	2.0	2.0	0.1		M) KO (FPKM)	
			1.8					+			+	1.1	+	+	-1.9	-5.2	-0.9	2.3	1.6	1.4	1.3	1.2	1.1	11	-1.2	-1.2	-1.2						ŀ			1.0	1.0	-1.0	-1.3	-14	- 4.2	29.5	1.7	1.0	1.0	-1.0	-1.0	-1.1	-1.1		+				i t		-1.4				-1.6						-9.1				M) CTRL vs KO (FC)	
			+	+			+	+	+	+	+	+	+	+	+	+	+	+	_	-	-		+	+			H					-					-	+	+	+	+	+	+		-				_	+	+	_			_	+	+	+	-	_											)(FC) CTRI	ell
18.4	21.6	:	: :	:	:	:	:	:	: :	:	,	!	:		!!	:		:	:	1	:	:		:	:	1	:	:	:	:	:		2.1	15.7	32.6	1.5	4.6	9.8	59.7	10.1	2 1	24.5	21 2	28.0	5.6	9.8	4.5	16.2	16.2	2.1	6.3	14.1	39.4	15.5	23.6	10./	48.0	11.2	8.0	1.4	17.5	16.6	2.9	13.3	3.0	14.5	5.4	5.4	4.1		CTRL (FPKM) KI	
14.4	20.6	:	: :	:	:	:	:	:	:	:	,	!	:		: :	:	!	:	:	1	:	:		:	:	1	:	:	:	!	:		4.2	16.3	27.1	0.6	1.9	10.0	20.4	79	5 0	2.67	25.0	26.3	7.3	10.0	3.7	16.3	16.3	2.0	4.6	15.3	31.4	13.6	11.3	10.0	45.5	12.7	8.6	1.5	4.3	13.9	2.8	11.2	5.1	15.2	3.7	3.7	2.4		KO (FPKM)	
-1.3	-1.0	:	: :	:	:	:	:		: :	:	:				:   :	:		:	:	1	:	:		:	:		:	:	:	:	:	:	1.9	1.0	-1.2	-2.5	-2.4	1.0	-2.9	1 2	-1 20	-2 -2	1.0	1.1	1.3	1.0	-1.2	1.0	1.0	11	-1.4	1.1	-1.3	-1.1	-2.1	119	Ė	: 1	1.1	1.1	-4.1	-1.2	-1.0	-1.2	1.7	1.0	-1.5	-1.5	-1.7	-1.3	CTRL vs KO (FC)	Neuron
10.6 24.8	18.0		: :	:			:		: :	:						:		1.0	7.3	3.9	1.9	4.5	44.1	16.3	13.7	27.4	193.8	32.9	3.1	5.7	4.2	20.8	:	:	:	:	:	:		:		111	160	15.2	0.9	1.0	2.1	11.0	11.0	3 2	3.1	40.7	69.5	16.8	7.4	7.3	46.4	13.3	7.2	4.2	3.4	9.8	1.4	16.7	5.5	18.9	19.0	19.0	3.2	0.2	CTRL (FPKM)	Myocyte
13.8	5.1					:	:		:							:	1	0.6	7.9	2.5	2.6	3.6	38.4	19.0	7.0	23.5	116.2	24.5	3.1	5.6	3.00	9.5				:	:					17	16.4	10.7	2.8	2.2	4.6	22.9	22.9	3.1	27	36.1	33.4	8.4	3.7	1.7	20.9	10.4	7.2	0.9	0.9	6.2	0.8	5.4	2.8	11.0	4.1	4.1	0.7	1.0	KO (FPKM)	Myocyte
-2.2	-3.6	:	: :	:			:		:						:	:		5.0	1.1	-1.6	1.4	-1.2	-1.1	1.2	-2.0	-1.2	-1.7	-1.3	1.0	-1.0	1.1	-2.2	:	:		:	:	:			: :	1.6	1 .	1.4	3.1	2.3	2.2	2.1	2.1	Ė	5.6	1.1	-2.1	-2.0	-2.0	-1.4	-2.2	i i	1.0	-4.4	-4.0	-1.6	-1.7	-3.1	-2.0	-1.7	4.7	4.7	-4.9	6.4	CTRL vs KO (FC)	Myocyte

Afap1l1 Dysf	Rxrg	Thoc7	Ankrd9 Ndufv2	Ankrd9	Ankrd9	Abnd16a	lmmp2l	Sh3bgr	Epn1	Pard3	Uggt2	Res17	Res17	Pafah?	AKU83927	Crit1	Crlf1	Numbl	Camk1g	Rfx1	Ank3	Glis2	Schn2	Gabrat	Sncb	Sncb	Sncb	Cluh	Sic45a1	Cd200	Chga	lp6k1	Tuh	CX3CII	Src	Ntrk3	R3hdm2	Kalrn	Mrps2/	Ppp3ca	St6galnac5	Ap3b2	Arhgef4	Aatk	Rasal1	Rasal1	Fxyd2	Cdh22	Add2	Kcnmb4	Unc13a	Slit3	Slit3	Tctn2	Celf5	Pitnnm3	Ralgps2	Dlg3	Abr	Abr	Zbtb16	Ncs1	Plekha6	Drosha	Pkia	Mical2
uc008fcq.1 uc009cou.1	uc007dlb.2	uc007sge.1	uc007pcj.1	uc007pcj.1	uc007pcj.1	uc008ctq.1	uc007nll.1	uc008acu.1	uc009ezx.1	uc009nzf.2	uc007uzj.2	uc007egg.2	11COO7egg 2	ucorrym.r	ucoo7vit.1	uc009maj.1	uc009maj.1	uc009fvq.1	uc007eel.1	uc009mlv.2	uc007fna.1	uc007xzw.1	110007riv 2	ucooryce.z	uc007qpc.1	uc007qpc.1	uc007qpc.1	uc007kca.1	uc008vxt.1	uc007zim.1	uc007oui.1	uc009roc.1	iic009idf 1	ucoogmwx.1	uc008npb.1	uc009hxh.2	uc007hjl.2	uc012aew.1	ucoovrpn.1	uc008rmg.1	uc008rtu.1	uc009iby.1	uc007api.1	uc007mrm.2	uc008zhr.1	uc008zhr.1	uc009pfv.1	uc008nxc.2	uc009cre.1	uc007hbw.1	uc009mei.2	uc007ild.2	uc007ild.2	uc008zqh.2	uc007gie.2	ucoosipe.1	uc007dcx.2	uc009twm.2	uc007kft.1	uc007kft.1	uc009pim.1	uc008jdq.1	uc007cpu.2	uc007vib.2	uc008oof.1	uc009jgo.2
chr18:61903415-61906431 chr6:84105157-84129665	chr1:169554495-169554572	chr14:14792641-14792730	chr12:112225136-112225342	chr12:112223381-112223505	chr12:112217231-112219244	chr17:54034808-54034837	chr12:42737559-42737641	chr16:96425650-96425694	chr7:5045736-5045833	chr8:130131568-130131715	chr14:119399951-119400172	chr10:4432803-4432832	chr10:4430642-4430748	chr4:133957549-133957751	chr11:118147968-118148085	chr8:/3021096-/3021195	chr8:73020450-73020595	chr7:28046027-28046126	chr1:195195061-195195146	chr8:86610298-86610343	chr10:69338074-69340577	chr16:4612002-4612527	chr13:91678217-91678409	ch:11:41993978-41994160	chr13:54867276-54867351	chr13:54867276-54867299	chr13:54867186-54867375	chr11:74463592-74463680	chr4:150004509-150004563	chr16:45390084-45390297	chr12:103796508-103796675	chr9:107940950-107941005	chr7:116168888-116169121	chr3:153389931-153306879	chr2:157257346-157257451	chr7:85634947-85635385	chr10:126889703-126889747	chr16:33995419-33995510	chr9:50485456-50485476	chr3:136339898-136340253	chr3:152504152-152506379	chr7:88635065-88635163	chr1:34860376-34860746	chr11:119869942-119870003	chr4:80599233_80599305	chr5:121103275-121103516	chr9:45217129-45217256	chr2:165008739-165008871	chr6:86041466-86041557	chr10:115880828-115880968	chr8:74191228-74191271	chr11:35133856-35136003	chr11:35131153-35132546	chr5:125053858-125057033	chr10:80932583-80932711	chr11:71870101-71870196	chr1:158746064-158746095	chrX:97969004-97969071	chr11:76281757-76282079	chr11:76277793-76282079	chr9:48469634-48469707	chr2:31143004-31143039	chr1:135158452-135159587	chr15:12762977-12763144	chr3:7368316-7368393	chr7:119398244-119398745
3017 24509	78	90	161	125	2014	2432	83	45	98	148	222	29	107	203	110	100	146	100	86	46	2504	526	193	103	76	24	190	89	55	214	168	56	234	7959	106	439	45	92	21	356	2228	99	371	62	73	242	128	133	92	141	44	2148	1394	3176	129	96	32	68	323	4287	74	36	1136	168	78	502
											۷ .	۷ .	< -	< -	< -		~	4	Υ	Υ	~	γ.	۷ -	< -	< <	~	4	4	4	4	۷ .	۷.	< -	< -	< <	4	Υ	۷.	< -	< <	~	γ	۷.	۷.	< ~	Ψ	Υ	<b>~</b> -	< ~	<b>Y</b>	۷.	<b>~</b>	. ~	Υ	۷.	< -	٧ ٧	4	Y	Υ	۷.	<b>4</b> 4	< ~	: ~	Υ	~
< <	Υ	۷.	<	4	۷.	< -	٠,	4	۲	4																																													Ţ						٧.	4	< ~	. ~	Y	4
	~	~	4	~	~	<		4			-	۷.	< -	-	ncRNA				~				-	< -	< -<	<	~			3'UTR					~		Υ		<	4			~					~													9	3'UTR			~	
< <						4															~	~									~		<	<			Υ		4									-	<		-	<		~						4		+				~
~ ~	z	z.	< Z	z	z	2 ~	: ~	z	~	z	≺ :	z	2 2	2 2	2 2	: ~	~	~	z	~	~	z	< 2	2 2	zz	z	z	~	z	z	۷.	۷ -	< 2	2 ~	z	4	z	≺ ;	2 -	Z	4	4	z	z	2 ~	~	4	z -	< ~	~	۷ :	z -	<	Υ	۷.	< -	< ~	~	4	4	۷ :	z	< ~	~	Z	z
: :	:	:	: :	:		: :	:	:	:	:	:	:	: :			:	:	:	:	:	:	:		:	:	:	:	:	:	:		:	: :	:	:	:		:	: :	:	:	:	:	:	:	:	:	: :	:	:	:	: :	:	:		: :	:	:	:	:	:	: :		:	:	
: :	:	:	: :	:	:	: :	:	:	:	:	8	36	71	100	100	/3	73	31	71	41	36	54	л <u></u>	16	22	14	18	49	46	00	16	4	3 0	л \	60	17	8	26	1 13	9	14	16	4	9 2	10 14	24	69	82	ς ω	18	38	41	50	48	19	30 8	8 50	11	00	12	12 4	9 15	30	8	7	18
41 72	58	27	9 25	25	25	62	100	52	27	36	:	:	:   :		:	:	:	:	:	:	:	:			:	:	:	:	:	:	1	:	:   :	:	:	!	:	:	:   :	:	:	:	:		:   :	:	:	: :	:	:	:	: :	:	:	-	:   :	:	:	:	:	26	85	10	12	32	100
1 1	:	:	: :	:	1	: :	:	:	:	:	1	:	:   :	:   :		:	:	:	1	1	:	1		:		:	:	1	:	:	1	:	·   ·	!	:	-	:			:		'	:	:   1	:   :		:	: :		:	:	: :	:	:		:   :	:	:	:	:	:	-	<u> </u> :	:	:	-
: :	:	:	: :	:	1	: :	:	:	:	:	:	:	:   :		:	:	:	:	:	;	:	1		:	:	:	:	:	:	:	:	:	:   :	: :	:		-	:		:	:	1	:		:   :	:	:	: :	:	:	:	: :	:	:	-	:   :	:	:	:	:	:	-	:	:	:	-
1 1	:		: :	:	1		!	:	:	1	'	:			:		:	:	:	1	:	1				:	1	1	:	:	1				:		-	:				•	:	:			:			:	:	' '	:	:	1			:	:	:	:			1	:	-
: :	:	:	: :	:		: :	:	:	:	:	2.1	7.3	7.3	1 4.0	0.8	5.6	5.6	35.3	9.5	3.2	6.3	2.3	9,5	2.01	170.1	170.1	170.1	12.6	11.5	33.7	46.0	47.2	43.1	13/.2	22.1	15.7	20.8	7.0	10.6	360.0	65.2	30.1	88.2	13.4	22.0	12.9	3.6	4.6	38.9	43.6	30.1	10.3	10.3	7.2	8.6	5.0	7.1	17.0	59.7	59.7	9.0	93.9	6.4	21.7	57.5	71.7
: :	:	:	: :	:			:	:	:	:	4.2	11.7	11.7	10	1.0	1.0	7.0	43.6	11.7	3.8	7.3	2.6	10.5	7.0.7	176.0	176.0	176.0	12.8	11.7	33.1	44.9	46.0	1.70	02.1	19.5	13.8	18.2	6.1	0.8	298.3	53.4	23.8	69.4	10.3	9.6	9.6	2.7	3.3	27.2	30.0	17.8	5.2	5.2	3.5	3.6	2.8	2.7	6.2	20.4	20.4	7.1	71.9	7.5	16.3	82.1	51.2
				:			ı		1	ı	1.9	1.6	16	1.5	1.3	1.3	1.3	1.2	1.2	1.2	1.2	11	1	1.0	1.0	1.0	1.0	1.0	1.0	-1.0	-1.0	-1.0	11		111	-1.1	-1.1	11	-1.2	-1.2	-1.2	-1.3	13	-13	1 13	-1.3	-1.3	-1.4	-1.4	-1.5	-1.7	-2.0	-2.0	-2.1	-2.4	-2.2	-2.6	-2.7	-2.9	-2.9	-1.3	-1.3	1.2	-1.3	1.4	-1.4
12.0 2.3	31.1	104.7	295.6	12.2	12.2	37.0	10.3	673.3	44.6	1.9		:			:		:		-	,								,	:						:					:		,					,		,	:			:	:				:		:	4.9	15	0.4	10.3	231.3	16.0
5.6 1.1	14.5	47.5	133.7	5.0	5.0	14.2	3.8	175.6	9.8	0.4							:		-	,								,									-																	,							13.8	2.8	0.4	8.2	171.3	11.0
-2.1 -2.1	-2.1	-2.2	-2.4	-2.4	-2.4	-2.6	-2.7	-3.8	-4.5	-5.1		:	:   :		:		:	:	ı		:				:	:		1	:	:		:		:	:			:		:			:			:			1	:			:	:			:	:	1	1	2.8	1.8	-1.0	-1.3	-1.3	-1.5

**Table S4.** Tdp-43 cryptic exons found in mouse stem cell, muscle and neuron (refer to Excel Data Table). Inf.Ins., Inframe Insertion; Exon Ext., Exon Extension; NMD, Nonsense-mediated decay, PSI; Percent Spliced In.