Functional Neuronal Differentiation of Injury-Induced Muscle-Derived Stem Cell-Like Cells with Therapeutic Implications*

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Supplementary Table 1: Primary and secondary antibodies.

Primary antibodies	Host	Dilution	Manufacturer	Secondary antibodies
AChE	Mouse monoclonal IgG2b	1:200	Abcam	Goat anti-mouse AlexaFluor 488
CNPase	Mouse monoclonal IgG1	1:200	Millipore	Goat anti-mouse AlexaFluor 594
Gfap	Rabbit polyclonal IgG	1:150	Santa Cruz	Goat anti-rabbit AlexaFluor 488
Nefm	Mouse monoclonal IgG2a	1:200	Abcam	Goat anti-mouse AlexaFluor 594
Nestin	Goat polyclonal IgG	1:150	Santa Cruz	Donkey anti-goat AlexaFluor 488
Myosin heavy chain	Mouse monoclonal IgG1	1:200	Sigma	Goat anti-mouse AlexaFluor 488
β-Tubulin III	Rabbit plyclonal IgG	1:500	Abcam	Goat anti-rabbit AlexaFluor 594

Supplementary Table 2: PCR primers.

Gene	5'Primer	3'Primer
AChE	AAGGGCTGGGATATAATACGAC	CTTAGCCCAAGACATGCAGA
Agrin	CCTCAACTTGGACACGAAGCT	AGGCCGATGCCCACAGA
β-Actin	GGCTGTATTCCCCTCCATCG	CCAGTTGGTAACAATGCCATGT
Chrna1	GAATCCAGATGACTATGGAG	GACAATGATCTCACAGTAGC
Chrng	ATCCGGCACCGACCGGCTAA	CATTTCTGCCCGCCCGCCTT
Dok7	TCTCCCAGACCCGAGTTCTG	TCTAGCTGCAGGGCTTCCA
Gapdh	AACTTTGGCATTGTGGAAGG	GGATGCAGGGATGATGTTCT
Gfap	GCCCGGCTCGAGGTCGAG	GTCTATACGCAGCCAGGTTGTTCTCT
Lrp4	GGACTGCACGTCAGCTATGC	CGCGATCACCAACAAAATCA
Musashi	GTTCATCGGAGGACTCAG	GCTCTCAAACGTGACAAA
Musk	TGAGAACTGCCCCTTGGAACT	GGGTCTATCAGCAGGCAGCTT
Mtap2	ACACCCCGAACCAGGAGGA	GCGTTGGACGTGCCCTTCT
Ncam1	ATGGAAACTCTATTAAAGTGAACCTGA	TAGACCTCATACTCAGCATTCCAGT
Nefm	AGTGGTTCAAATGCCGCTAC	TTTTCCAACTGCTGGATGGT
Nefl	CCATGCAGGACACAATCAAC	CGCCTTCCAAGAGTTTTCTG
Nestin	CTGGAAGGTGGGCAGCAACT	ATTAGGCAAGGGGGAAGAGAAGGATG

Nrg1	CCTGGGAGGCCCTCGCGAAT	CCGTCATGCTGGACACGGGT
Olig1	ACGTCGTAGCGCAGGCTTAT	CGCCCAACTCCGCTTACTT
Olig2	GGGAGGCGCCATTGTACA	GTGCAGGCAGGAAGTTCCA
Otx2	CTGTTACCAGCCATCTCAATC	ATAGCTTCTACAGGTCTTCAC
Pax6	AGGGGGAGAGAACACCACT	CATTTGGCCCTTCGATTAGA
Rapsyn	ACGAGTGCGTGGAGGAGACT	TGTTCCTCTCCCCGATGGA
β-TubulinIII	AGACAACTTCGTTTTCGGTCAGT	CCTTTAGCCCAGTTGTTGCCT

Supplementary Table 3: Tested medium for neuronal differentiation of iMuSCs.

ND1 medium	DMEM/F12, 1% Glutamax, 1% non-essential amino acids, 0.1mM β-mercaptoethanol, 1% ITS (5 μg/ml insulin, 5 μg/ml transferring, 29nM selenium), 20nM progesterone, 100 μM putrescine dihydrochloride, 1 μg/ml laminin, 5 ng/ml human recombinant basic fibroblast growth factor, 0.5% antibiotics
ND2 medium	Neurobasal Medium, 1% Glutamax, 2% B-27, 0.5% antibiotics
ND3 medium	Neurobasal Medium, 1% Glutamax, 1% B-27, 20ng/ml brain-derived neutrophic factor, 0.5% antibiotics

Supplementary Table 4: Morphological characteristics of the neuromuscular junctions.

	Terminal Nodes	Branching Nodes	Nb of Segments	Total Length
PBS	79±7	13±3	59±6	1135.5±87
MuSCs 1week	83±6	21±2	49±3	1205.3±110
MuSCs 3weeks	85±8	28±3	63±5	1167.3±78
iMuSCs 1week	80±8	31±5	95±9*	1879.4±98*
iMuSCs 3weeks	144±11*	58±4*	163±1*	3099.7±112*
MuSCs extract 1week	86±8	10±2	45±2	995.34±98
MuSCs extract 3weeks	89±5	18±6	53±8	1058.4±82
iMuSCs extract 1weeks	89±8	45±9*	104±97*	2920.3±101*
iMuSCs extract 3weeks	135±13*	63±7*	142±12*	3233.5±125*

All data are presented as mean ±SEM, $p < 0.05$. ***,** indicates statistical significance from control PBS injected *mdx* mice