

Supplementary Table 1. Quantitative real-time PCR analysis of selected and reference genes for iPSCs and MSNs after 70 days of differentiation *in vitro*. Primer sequences and amplification product in base pairs (bp) are given.

Targets	Primer sequence (forward; reverse)	Product (bp)
GAD67	AGATCAACAAATGCCTGGAAGTGGC; GAGCCACCTTGTGTAGCTTTTCCC	183
FOXP1	CCACGTGGAAGAATGCAGTGCG; GCATTGAGAGGTGTGCAGTAGGC	193
CTIP2	CTCCGAGCTCAGGAAAGTGTC; TCATCTTTACCTGCAATGTTCTCC	129
β -tubulin III	AGTGATGAGCATGGCATCGACCC; GGCACGTACTTGTGAGAAGAGGC	110
MAP2	CAGGCAAAGGACAAAGTCTCTGACG; CGCCGAGGAGGGAGAATGGAGG	92
B2M	TGCCTGCCGTGTGAACCATGT; TGCGGAATCTTCAAACCTCCATGA	97
GAPDH	AGCCACATCGCTCAGACACCAT; CAGGCGCCCAATACGACCAAAT	71
β -actin	CATGTACGTTGCTATCCAGGC; CTCCTTAATGTCACGCACGAT	250

Supplementary Table 2. Quantitative real-time PCR analysis of voltage-gated Ca²⁺-channel subunit expression in MSNs after 70 days differentiation *in vitro*. Primer sequences and amplification product in base pairs (bp) are given.

Voltage-gated Ca ²⁺ -channel subunit	Primer sequence (forward; reverse)	Product (bp)
Ca _v 1.2 (L-type)	CATTTGACGCCTTGATTGTTGTGGG; GTATGTTTCAGCTGGGTTTACCTCGG	73
Ca _v 1.3 (L-type)	CGGACCCCGTCCTCGAAGGA; CCTACGCGGATCGGGTTGGT	111
Ca _v 2.1 (P-type)	CCAGAAACTTGCCCTACAGAAAGCC; CGGGTCCATTTTCGTTATACAGGGC	196
Ca _v 2.2 (N-type)	TGCTGTTTCAGGAGCGCCACG; CGGTGGCATTGGCCTGCTCA;	93
Ca _v 2.3 (R-type)	GTGGCCCTGGGGTTCATCTTCCATA; CAGGATGCCACTGAGGACCACGA;	90
Ca _v 3.1 (T-type)	TCAGCCTCCCCCTGAGCGTG; TTCTGCAGGACCGCATGCCG	111
Ca _v 3.2 (T-type)	GTCACTCTGCTGCTGGATACGC; TCAGGTTGTTGTTTCCTGACAAAGGC	160
Ca _v 3.3 (T-type)	ATCGACTACACCCTGTGCTTCCG; GACGTAGTCGAAGAGTTTGTGGGC	162

Supplementary Table 3. Quantitative real-time PCR analysis of GABA_A receptor subunit expression in MSNs after 70 days of differentiation *in vitro*. Primer sequences and amplification product in base pairs (bp) are given [6664].

GABA _A receptor subunit	Primer sequence (forward; reverse)	Product (bp)
$\alpha 1$	TGCAGCTTGGAGACAGGATT; TGAACCATCTTCCCCCTCTT	97
$\alpha 2$	AGAGGATGGACTTGGGATGG; AAGATTCGGGGCATAATTGG	117
$\alpha 3$	CACAAGTGTCTTCTGGCTCA; TGGCACTGATACTCAAGGTGGT	99
$\alpha 4$	TCCGGTTTTTCATGCAAAGGT; CTTCATTAAGGATAAGCCAGTGGAA	100
$\alpha 5$	GGTGTCTTTTTGGCTGAACC; GCCACTTTGGGCAGAGAGTT	117
$\alpha 6$	TTCCCAGGTGTCTTTCTGGA; GGCACTGATGCTCAAAGTGG	101
$\beta 1$	ATGCATCTGCAGCCAGAGTC; AGGGATCTTTGGCAGGGTCT	95
$\beta 2$	CCCAAACCAAATGTCACTGC; TGGAAGTGTCAACTTGCTTCAAA	90
$\beta 3$	ATTGAAAGGCGCCATGTTTT; GGGTTGGTCCTAGGGAGAGG	104
$\gamma 1$	GGAGATGGGGGATGATAGGC; ATCCCTTCCACCCAACACAC	105
$\gamma 2$	TTGTCTGAACAGGAGCTTGGA; GAAGGCAGTGGGGAAGAAGA	91
$\gamma 3$	AACCAACCACCACGAAGAAGA; CCTCATGTCCAGGAGGGAAT	113
δ	GTCTTTGCTCTGCAGGATCG; CCAGGCCAAGGCTTTATTTC	124

Supplementary Table 4. Quantitative real-time PCR analysis of nicotinic and muscarinic acetylcholine receptor subunit expression in MSNs after 70 days differentiation *in vitro*. Primer sequences and amplification product in base pairs (bp) are given.

Nicotinic and muscarinic acetylcholine receptor subunit	Primer sequence (forward; reverse)	Product (bp)
CHRNA3	CCTGCACAGAAGATCTGGAAGCC; CTTGTCGTCCACCTGGAAATCCC	75
CHRNA4	CAGATGATGACCACGAACGTATGGG; TGTTGTAGAGGACGATGTCCGGC	142
CHRNA5	TCTAGAAACACATTGGAAGCTGCG; GAAACATCCGATCAAGAACCTGGG	130
CHRNA6	ACACTTTGAAGTGGCCATCACCC; GGAACGCGAAGAGTCTCAATGCC	105
CHRNA7	AACCACTCACCGTCTACTTCTCCC; TGATCTGTCCAAGACATTTCAGCC	109
CHRNA2	TACAGCTTATGGTGTCACTGGCCC; TCCAGGTGAGGCGATAATCTTCCC	111
CHRNA4	GGACGACCTTCTGAACAAAACCCG; CTCATTACGCTGATAAGCTGGGC	118
CHRM1	TCAAGAGGCCGACTAAGAAAGGGC; CACCAGCACCATGATGTTGTACGG	185
CHRM2	AAATGAATCCAGCCCAGCTCGC; AGGAGTCCTTTGTGGGTCAGGG	173
CHRM3	ACGATCTTAAGGACAGTCGCTCCC; ACACCTAAGTTCAGATCCTGGCCC	176
CHRM4	CTACTTAGCCAGGTTCTGGGTGGG; TCTGAATACGTGGACCACTCACGG	174
CHRM5	TACTGAGCTTCAAACAAACCACTGCC; GGTGGTTGCATTGTGGTAAGAATCCC	136