Supplemental data

Autologous mesenchymal stem cell-derived dopaminergic neurons function in parkinsonian macaques.

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Supplemental Table 1. Results of blood and biochemical tests.

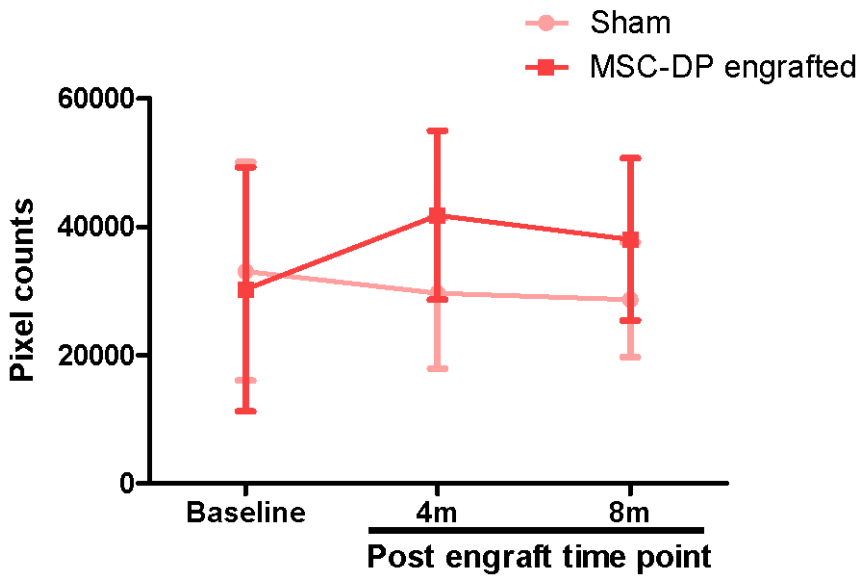
		Engrafted group		Control group	
Items	Units	Pre	8 mo	Pre	8 mo
WBC	($\times10^3$/μL)	11.75(3.44)	12.7(3.04)	9.32(2.35)	15.97(1.55)
RBC	($\times10^6$/μL)	5.95(0.36)	6.09(0.43)	5.8(0.25)	5.42(0.46)
HGB	(g/dL)	14.84(1.03)	14.72(0.60)	14(0.8)	12.57(1.75)
HCT	(%)	48.76(1.13)	49.26(2.74)	42.73(3.07)	42.37(4.81)
MCV	(fL)	82.24(3.43)	81(3.54)	73.63(2.72)	77.83(2.29)
MCH	(pg)	25.02(1.01)	24.24(1.11)	24.13(1.15)	23.07(1.32)
MCHC	(g/dL)	30.44(1.58)	29.96(0.60)	32.77(1.11)	29.57(0.83)
PLT	($\times10^3$/μL)	380.6(46.03)	430(120.98)	368.33(30.09)	440.67(13.1)
Bas	(%)	0.3(0.08)	0.32(0.13)	0.23(0.09)	0.43(0.26)
Eos	(%)	1.1(0.58)	0.84(0.37)	0.8(0.22)	0.33(0.17)
Neut	(%)	28.12(8.39)	42.96(15.57)	24.3(13.10)	48.43(21.79)
Lym	(%)	66.26(10.21)	51.9(16.37)	70.73(13.78)	47.43(21.03)
Mon	(%)	3.66(1.48)	3.54(1.43)	3.37(0.9)	2.7(0.92)
LDH	(IU/L)	478.6(45.07)	392.4(62.90)	476.33(44.15)	419.33(20.74)
CRE	(mg/dL)	0.63(0.05)	0.98(0.07)	0.67(0.19)	0.99(0.17)
CRP	(mg/dL)	0.08(0.04)	0.06(0.05)	0.13(0.19)	0.07(0.05)
GOT	(IU/L)	22(3.22)	22.6(5.71)	25.33(7.76)	30.67(13.89)
GPT	(IU/L)	29.8(2.93)	34.6(7.71)	34.33(9.18)	42.67(14.82)
BUN	(mg/dL)	18.8(4.68)	19.34(4.00)	14.8(1.98)	31.8(9.74)

WBC, white blood cell; RBC, red blood cell; HGB, hemoglobin; HCT, hematocrit; MCV, mean corpuscular volume; MCH, mean corpuscular hemoglobin; MCHC, mean corpuscular hemoglobin concentration; PLT, platelet; Bas, fraction of basophil; Eos, fraction of eosinophil; Neut, fraction of neutrophil; Lym, fraction of lymphocytes; Mon, fraction of monocytes; LDH, lactate dehydrogenase; CRE, creatinine; CRP, C-reactive protein; GOT, glutamic oxaloacetic transaminase ; GPT, glutamic pyruvic transaminase; BUN, blood urea nitrogen.

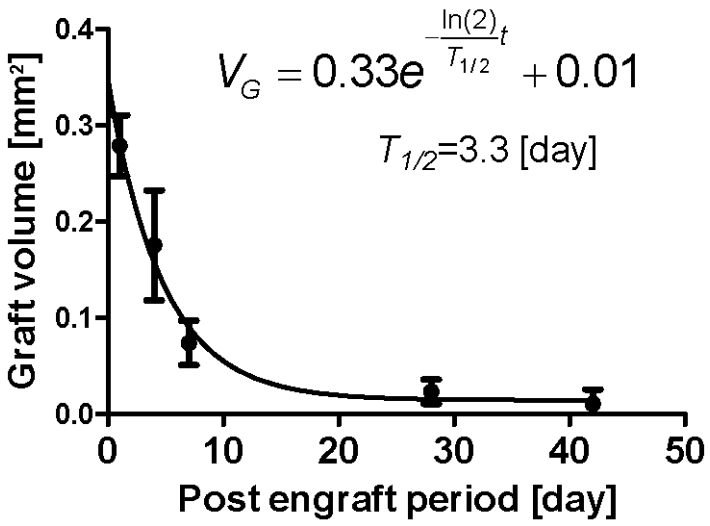
Supplemental Table 2. Blood test analysis for tumor markers

Tumor marker	Unit	Engrafted group		Control group	
		Pre	8 mo	Pre	8 mo
CEA	ng/mL	<0.5	<0.5	<0.5	<0.5
TPA	U/L	62.20(25.13)	41.2(17.63)	86.33(60.68)	62.67(24.24)
SLX	U/mL	5.4(0.8)	6.2(1.17)	6.67(0.47)	6.33(0.47)
NSE	ng/mL	4.38(0.51)	3.82(1.64)	4.20(2.63)	5.40(2.64)
BFP	ng/mL	48.6(46.11)	61.2(59.8)	56.67(25.98)	67.33(20.27)

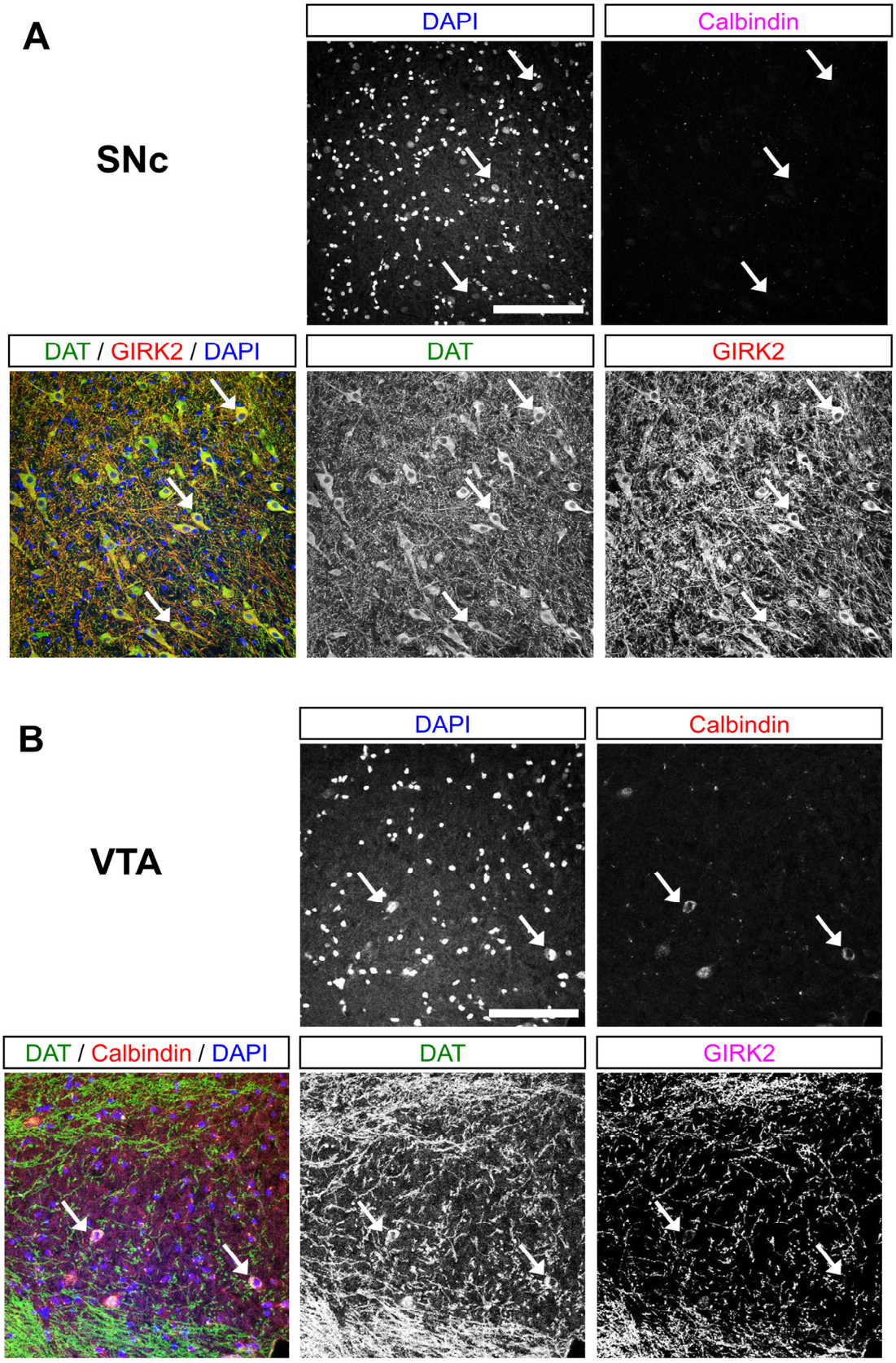
CEA, carcinoembryonic antigen; TPA, tissue polypeptide antigen; SLX, sialyl Lewis X antigen; NSE, neuron-specific enolase; BFP, basic fetoprotein (BFP)



Supplemental Figure 1. Spontaneous activities of animals in the MSC-DP and sham groups.
There was no significant effect of group (MSC-DP vs. sham) or time or an interaction between them by two-way ANOVA with repeated measures of spontaneous activities (in pixel counts). No significant effect of time was found by one-way ANOVA using repeated measures in the MSC-DP group.



Supplemental Figure 2. Half-life period of the naïve MSCs in rodent brain.
Time-course data of graft volume of MSCs transplanted into the striatum of rats were obtained from Fig. 1B of a previous publication (Ref 13, Moloney et al. 2010). We fitted the equation of the one-hit model with a constant risk to the data (see main text).



Supplemental Figure 3. Immunohistochemistry of the substantia nigra pars compacta (SNc) and ventral tegmental area (VTA).

A) The section of SNc shows DAPI +/DAT+/GIRK2+/calbindin- neurons, the same pattern seen in A9 neurons (arrows indicate examples of these cells). B) The section of VTA shows DAPI+/DAT+/GIRK2-/calbindin+ neurons, the pattern seen in A10 cells (arrows). The sections were obtained from a single normal adult animal (8 y.o., *macaca fascicularis*). Scale bar indicates 100μm.