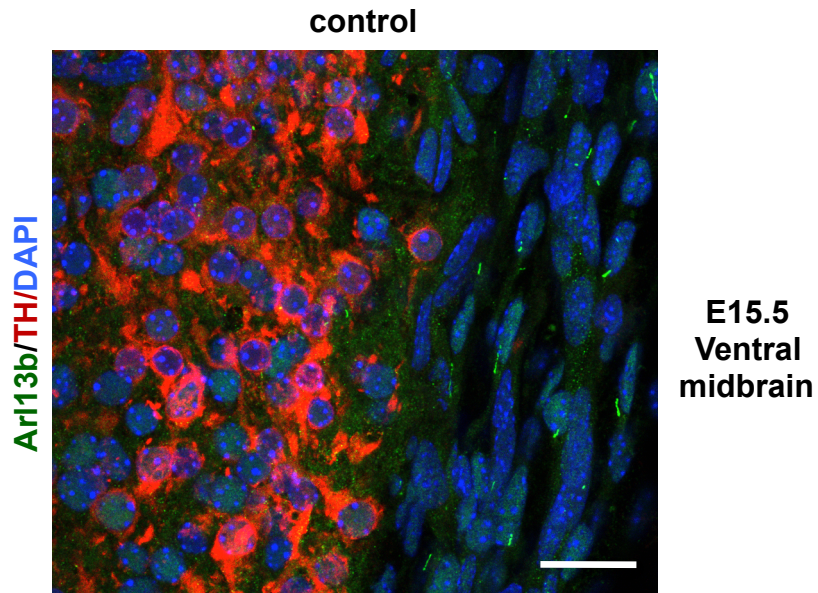
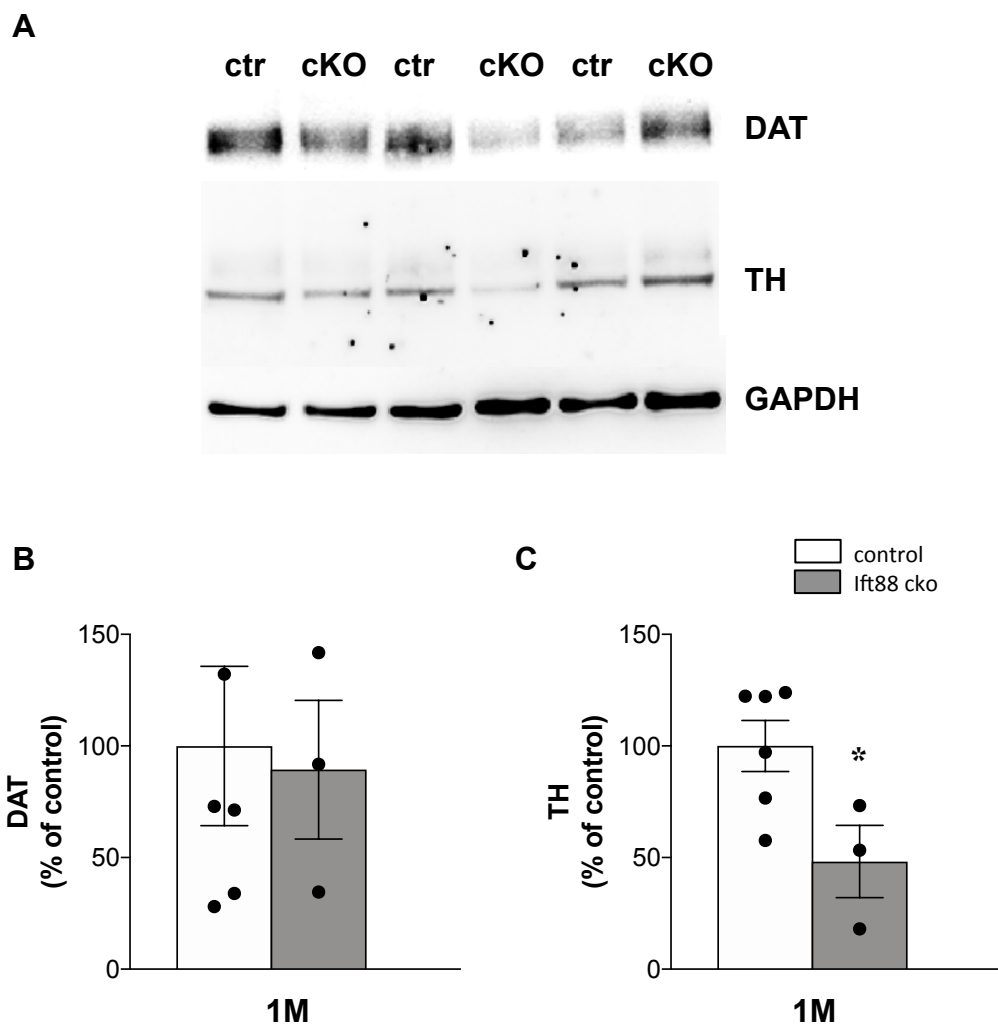


**Figure S1: Analysis of primary cilia in ventral midbrain dopaminergic neurons and of TH striatal immunoreactivity at embryonic stages.** (A,B) Representative confocal images of coronal midbrain sections at E15.5 by immunofluorescence with an ACIII-specific antibody (green) and a TH-specific antibody (red) in control and *lft88* cKO. Insets (a', a'', b', b'') show higher magnification of the boxed areas in panels A and B, respectively. (C,D) Representative confocal images of coronal striatal sections showing TH immunoreactivity (green) at E16.5 in control and *lft88* cKO. (E) Semi-quantitative analysis of TH immunoreactivity in the dorso-lateral striatum in control and *lft88* cKO mutant littermates at E16.5. The data are presented as the mean  $\pm$  SEM. No statistical significance between the indicated groups was determined by unpaired two-tailed Student's t test (for details see also Supplementary statistical information). Scale bars: A,B: 20  $\mu$ m, insets: 10  $\mu$ m, and C,D: 100  $\mu$ m. Abbreviations: str, striatum; cx, cortex.



**Figure S2: Arl13b does not label primary cilia in TH immunostained neurons at E15.5.** Representative confocal image of coronal midbrain sections showing PC labeled by immunofluorescence with an Arl13b-specific antibody (green) in TH negative cells identified by nuclear DAPI staining (blue). A TH-specific antibody (red) is used to identify DA neurons in a E 15.5 control embryo. Scale bar: 20  $\mu$ m.



**Figure S3: Analysis of TH and DAT expression in dorsal striatum by Western blots.** (A) Western blot analysis of DAT, TH and GAPDH in dorsal striatum of control and *lft88* cKO mice. (B, C) Densitometric quantification of DAT and TH protein level expressed as percentage of controls. The data are presented as the mean  $\pm$  SEM. Statistical significance between the indicated groups was determined by unpaired two-tailed Student's t test (for details see also Supplementary statistical information). Abbreviations: ctr: control, M, month.

## Supplementary statistical information

### Suppl. Table S1

Data and statistics for graphs shown in **Fig. 1G**, n: total number of analysed TH positive neurons, N: number of mice. Statistical significance is shown according to two-way ANOVA.

G) TH+ cells with the PC (%)						
	Mean	±SD	±SEM	Median	95% CI	n/N
<b>E15.5 control</b>	91,97	3,75	2,16	92.04	82.66 – 101.3	663/3
<b>E15.5 lft88<sup>DatCre</sup></b>	83,92	5,49	3,17	84.48	70.29 – 97.56	720/3
<b>E16.5 control</b>	91,38	3,10	1,79	90.65	83.67 – 99.09	728 /3
<b>E16.5 lft88<sup>DatCre</sup></b>	38,48	4,38	2,53	38.01	27.60 – 49.36	535/3
<b>1 mo control</b>	98,04	1,66	0,96	98.08	93.92 – 102.2	848/3
<b>1 mo lft88<sup>DatCre</sup></b>	25,11	5,71	3,29	23.73	10.92 – 39.31	720/3
<b>6 mo control</b>	97,42	1,25	0,72	97.46	94.33 – 100.5	582/3
<b>6 mo lft88<sup>DatCre</sup></b>	22,03	0,88	0,51	21.87	19.85 – 24.22	771/3

*Two-way ANOVA	
Source of Variation	P value
Interaction	<0.0001
Age	<0.0001
Genotype	<0.0001

Results of Fisher's LSD multiple comparison	Summary	P value
<b>E15.5 control vs. E15.5 lft88<sup>DatCre</sup></b>	*	0.0175
<b>E15.5 control vs. E16.5 lft88<sup>DatCre</sup></b>	****	<0.0001
<b>E15.5 control vs. 1 mo lft88<sup>DatCre</sup></b>	****	<0.0001
<b>E15.5 control vs. 6 mo lft88<sup>DatCre</sup></b>	****	<0.0001
<b>E16.5 control vs. E15.5 lft88<sup>DatCre</sup></b>	*	0.0259
<b>E16.5 control vs. E16.5 lft88<sup>DatCre</sup></b>	****	<0.0001
<b>E16.5 control vs. 1mo lft88<sup>DatCre</sup></b>	*	0.0434
<b>E16.5 control vs. 6 mo lft88<sup>DatCre</sup></b>	****	<0.0001
<b>1 mo control vs. E15.5 lft88<sup>DatCre</sup></b>	***	0.0003
<b>1 mo control vs. E16.5 lft88<sup>DatCre</sup></b>	****	<0.0001
<b>1 mo control vs. 1 mo lft88<sup>DatCre</sup></b>	****	<0.0001
<b>1 mo control vs. 6 mo lft88<sup>DatCre</sup></b>	****	<0.0001
<b>6 mo control vs. E15.5 lft88<sup>DatCre</sup></b>	***	0.0004
<b>6 mo control vs. E16.5 lft88<sup>DatCre</sup></b>	****	<0.0001
<b>6 mo control vs. 1mo lft88<sup>DatCre</sup></b>	****	<0.0001
<b>6 mo control vs. 6 mo lft88<sup>DatCre</sup></b>	****	<0.0001

**Suppl. Table S2**

Data and statistics for graphs shown in **Fig. 2C**, n: number of analysed striatal sections per mouse, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

<b>2C) TH immunoreactivity (% of relative control)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>1 mo control</b>	100	15.57	8.99	106.9	61.33 – 138.7	7/3
<b>1 mo lft88<sup>DatCre</sup></b>	65.32	2.38	1.38	65.53	59.41 – 71.24	7/3
<b>6 mo control</b>	100	8.86	5.12	98.70	77.98 – 122.0	7/3
<b>6 mo lft88<sup>DatCre</sup></b>	65.84	10.44	6.02	67.87	39.91 – 91.76	7/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>1 mo control vs. 1 mo lft88<sup>DatCre</sup></b>	*	0.019
<b>6 mo control vs. 16mo lft88<sup>DatCre</sup></b>	*	0.012

Data and statistics for graphs shown in **Fig. 2F**, n: number of analysed striatal sections, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

<b>2F) DAT immunoreactivity (% of relative control)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>1 mo control</b>	100	10.13	5.85	97.41	74.84 – 125.2	7/3
<b>1 mo lft88<sup>DatCre</sup></b>	68.96	15.97	9.22	73.43	29.30 – 108.6	7/3
<b>6 mo control</b>	100	2.58	1.49	101.2	93.59 – 106.4	7/3
<b>6 mo lft88<sup>DatCre</sup></b>	82.72	8.90	5.14	77.6	60.62 – 104.8	7/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>1 mo control vs. 1 mo lft88<sup>DatCre</sup></b>	*	0.047
<b>6 mo control vs. 6mo lft88<sup>DatCre</sup></b>	*	0.032

### Suppl. Table S3

Data and statistics for graphs shown in **Fig. 2G**, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

2G) HPLC analysis of DA, DOPAC, HVA, 3MT, NA and 5HT (pg/mg tissue)							
		Mean	±SD	±SEM	Median	95% CI	N
Dopamine	6 mo control	4137	615.0	205.0	4273	3664 – 4609	9
	6 mo lft88 <sup>DatCre</sup>	3310	218.9	97.89	3296	3038 - 3582	5
DOPAC	6 mo control	606.9	147.0	49.02	572.8	493.9 –719.9	9
	6 mo lft88 <sup>DatCre</sup>	486.1	62.4	27.91	461.5	408.6 –563.6	5
HVA	6 mo control	768.7	180.1	60.03	703.2	630.2 –907.1	9
	6 mo lft88 <sup>DatCre</sup>	671.7	114.6	51.24	718.9	529.4 –814.0	5
3MT	6 mo control	456.1	80.7	26.9	470.7	394.1 –518.2	9
	6 mo lft88 <sup>DatCre</sup>	340.3	71.4	31.92	367.1	251.6 –428.9	5
NA	6 mo control	677.5	115.8	38.62	648.3	588.4 –766.5	9
	6 mo lft88 <sup>DatCre</sup>	620.2	83.2	37.22	564.1	516.8 –723.5	5
5HT	6 mo control	437.4	193.7	64.58	437.4	288.5 –586.3	9
	6 mo lft88 <sup>DatCre</sup>	327.4	129.0	64.48	294.6	128.8 –460.4	5

Two-tailed unpaired t-test	Summary	P value
Dopamine 6 mo control vs. 6 mo lft88 <sup>DatCre</sup>	*	0.01
DOPAC 6 mo control vs. 6mo lft88 <sup>DatCre</sup>	ns	0.11
HVA 6 mo control vs. 6mo lft88 <sup>DatCre</sup>	ns	0.30
3MT 6 mo control vs. 6mo lft88 <sup>DatCre</sup>	*	0.02
NA 6 mo control vs. 6mo lft88 <sup>DatCre</sup>	ns	0.35
5HT 6 mo control vs. 6mo lft88 <sup>DatCre</sup>	ns	0.33

**Suppl. Table S4**

**Pacemaker activities and dopamine-responses of SN neurons from adult control and lft88 cKO mice.** MEA-recordings from **Fig. 3** in ACSF containing 25 mM glucose (upper), and 1 mM glucose (lower), as indicated. Pacemaker frequencies and pacemaker precision are given as mean basal firing rate and % coefficient of variance of the interspike interval (CV-ISI), respectively, during the first 10 minutes of recordings. “Activity at min 15 in dopamine [Hz]” was calculated as mean firing rate during the last minute of dopamine-application (100  $\mu$ M, 15 min). n represents the number of analyzed cells (in brackets, the relative % of this cell-type), N represents the number of analyzed mice. Data are given as mean  $\pm$  SEM. Datasets marked by (#) were not normally distributed. Significances/p-values according to unpaired Mann-Whitney tests, and Chi-square tests as indicated for comparison of relative abundances of dopamine-excited vs dopamine-inhibited SN neurons, and of the four different types of dopamine responses. P-values indicating significant differences are given in bold.

<b>Dopamine responses (25 mM glucose)</b>	<b>control mice</b>				
	<b>Basal firing rate [Hz]</b>	<b>CV-ISI [%]</b>	<b>Activity at min 15 in dopamine [Hz]</b>	<b>n (%)</b>	<b>N</b>
dopamine-excited, “silent”, no spontaneous activity	0	11.3 $\pm$ 1.0	8.5 $\pm$ 1.9	11 (13)	3
dopamine-excited, “active”, spontaneous activity	4.4 $\pm$ 0.7	6.8 $\pm$ 0.9 <sup>#</sup>	11.9 $\pm$ 1.3	17 (20)	3
dopamine-inhibited, sensitized D2-AR	1.76 $\pm$ 0.2 <sup>#</sup>	15.1 $\pm$ 1.1	0	33 (39)	3
dopamine-inhibited, desensitized D2-AR	2.3 $\pm$ 0.2	15.1 $\pm$ 1.4	1.7 $\pm$ 0.2	24 (28)	3
<b>lft88 cKO mice</b>					
dopamine-excited, “silent”, no spontaneous activity	0	12.6 $\pm$ 1.1	3.7 $\pm$ 0.4	15 (14)	4
dopamine-excited, “active”, spontaneous activity	2.9 $\pm$ 0.9	6.0 $\pm$ 0.1	12.1 $\pm$ 3.8	3 (3)	4
dopamine-inhibited, sensitized D2-AR	1.9 $\pm$ 0.1 <sup>#</sup>	14.8 $\pm$ 1.1 <sup>#</sup>	0	47 (42)	4
dopamine-inhibited, desensitized D2-AR	2.1 $\pm$ 0.1	15.2 $\pm$ 0.9 <sup>#</sup>	1.5 $\pm$ 0.2 <sup>#</sup>	46 (41)	4
p-values (controls versus lft88 cKO)	dopamine-silent: 0.4444 dopamine-	dopamine-silent: 0.5309 dopamine-	dopamine-silent: <b>0.0401</b> dopamine-active:	Chi-square: <b>p = 0.0062</b>	

	active: 0.5456 dopamine-sens: 0.4777 dopamine-desens: 0.3857	active: 0.8751 dopamine-sens: 0.7558 dopamine-desens: 0.9755	>0.9999 dopamine-sens: >0.9999 dopamine-desens: 0.5683	<b>p = 0.0001</b>
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Dopamine responses (1 mM glucose)	control mice				
	Basal firing rate [Hz]	CV-ISI [%]	Activity at min 15 in DA [Hz]	n (%)	N
dopamine-excited, “silent”, no spontaneous activity	0	14.7 ± 3.7	7.6 ± 1.9	5 (7)	4
dopamine -excited, “active”, spontaneous activity	6.7 ± 1.5 <sup>#</sup>	6.1 ± 1.1	14.3 ± 2.4	11 (16)	4
dopamine -inhibited, sensitized D2-AR	1.7 ± 0.1 <sup>#</sup>	14.0 ± 1.1	0	35 (51)	4
dopamine -inhibited, desensitized D2-AR	1.6 ± 0.2	16.5 ± 1.4	0.89 ± 0.1	18 (26)	4
lft88 cKO mice					
dopamine -excited, “silent”, no spontaneous activity	0	10.3 ± 1.4	7.1 ± 1.0	16 (12)	4
dopamine -excited, “active”, spontaneous activity	3.7 ± 0.6	7.9 ± 0.9	10.1 ± 1.0 <sup>#</sup>	13 (9)	4
dopamine -inhibited, sensitized D2-AR	1.5 ± 0.08 <sup>#</sup>	14.2 ± 0.8 <sup>#</sup>	0	76 (55)	4
dopamine -inhibited, desensitized D2-AR	1.7 ± 0.1	14.1 ± 1.1	0.8 ± 0.1	34 (24)	4
(controls versus lft88 cKO)	dopamine-silent: >0.9999 dopamine-active: 0.0635 dopamine-sens: 0.0896 dopamine- desens: 0.6681	dopamine-silent: 0.3097 dopamine- active: 0.192 dopamine-sens: 0.7307 dopamine- desens: 0.2888	dopamine-silent: 0.7241 dopamine- active: 0.1623 dopamine-sens: >0.9999 dopamine- desens: 0.8229	Chi- square: p = 0.7014 p = 0.4319	

*Additional p-values/significances within groups assessed with Kruskal Wallis with Dunn's multiple comparison test.*

Dopamine responses (25 mM glucose)	control mice		
	Basal firing rate [Hz]	CV-ISI [%]	Activity at min 15 in DA [Hz]
Desens vs sens	0.5611	>0.9999	<b>0.0002</b>

Desens vs silent	<b>&lt;0.0001</b>	0.9274	0.0733
Desens vs active	<b>&gt;0.9999</b>	<b>0.0003</b>	<b>0.0007</b>
Sens vs silent	<b>0.0027</b>	0.6691	<b>&lt;0.0001</b>
Sens vs active	<b>0.0307</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>
Silent vs active	<b>&lt;0.0001</b>	0.2539	<b>&gt;0.9999</b>
<b>lft88 cKO mice</b>			
	<b>Basal firing rate [Hz]</b>	<b>CV-ISI [%]</b>	<b>Activity at min 15 in DA [Hz]</b>
Desens vs sens	<b>&gt;0.9999</b>	<b>&gt;0.9999</b>	<b>&lt;0.0001</b>
Desens vs silent	<b>&lt;0.0001</b>	0.5592	<b>0.0564</b>
Desens vs active	<b>&gt;0.9999</b>	<b>0.0054</b>	0.2278
Sens vs silent	<b>&lt;0.0001</b>	0.4188	<b>&lt;0.0001</b>
Sens vs active	0.9841	<b>0.0013</b>	<b>&lt;0.0001</b>
Silent vs active	<b>0.0014</b>	<b>&gt;0.9999</b>	<b>&gt;0.9999</b>

<b>Dopamine responses (1 mM glucose)</b>	<b>control mice</b>		
	<b>Basal firing rate [Hz]</b>	<b>CV-ISI [%]</b>	<b>Activity at min 15 in DA [Hz]</b>
Desens vs sens	<b>&gt;0.9999</b>	<b>&gt;0.9999</b>	<b>&lt;0.0001</b>
Desens vs silent	0.6070	<b>&gt;0.9999</b>	0.7797
Desens vs active	<b>0.0007</b>	<b>0.0002</b>	<b>0.0353</b>
Sens vs silent	<b>0.0266</b>	<b>&gt;0.9999</b>	<b>&lt;0.0001</b>
Sens vs active	<b>0.0003</b>	<b>0.0030</b>	<b>&lt;0.0001</b>
Silent vs active	<b>&lt;0.0001</b>	0.1176	<b>&gt;0.9999</b>
<b>lft88 cKO mice</b>			
	<b>Basal firing rate [Hz]</b>	<b>CV-ISI [%]</b>	<b>Activity at min 15 in DA [Hz]</b>
Desens vs sens	0.8157	<b>&gt;0.9999</b>	<b>&lt;0.0001</b>
Desens vs silent	<b>&lt;0.0001</b>	0.5592	0.1420
Desens vs active	0.2677	<b>0.0054</b>	<b>0.0125</b>
Sens vs silent	<b>&lt;0.0001</b>	0.4188	<b>&lt;0.0001</b>
Sens vs active	<b>0.0052</b>	<b>0.0013</b>	<b>&lt;0.0001</b>
Silent vs active	<b>&lt;0.0001</b>	<b>&gt;0.9999</b>	<b>&gt;0.9999</b>

**Suppl. Table S5**

Data and statistics for graphs shown in **Fig. 4B**, n: total number of analysed striatal sections, N: number of mice. Statistical significance is shown according to two-way ANOVA.

<b>4B) TH immunoreactivity (% of control w/o MPTP)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>Control w/o MPTP</b>	100	24,79	9,37	105.3	77.08 – 122.9	7/7
<b>Control w/ MPTP</b>	55,41	12,50	6,24	56.18	35.55 – 75.26	7/4
<b>Mutant w/o MPTP</b>	74,24	13,11	4,95	69.61	62.12 – 86.37	7/7
<b>Mutant w/ MPTP</b>	67,20	13,50	6,75	69.88	45.71 – 88.65	7/4

<b>*Two-way ANOVA</b>	
<b>Source of Variation</b>	<b>P value</b>
<b>Interaction</b>	0.029
<b>Treatment</b>	0.0043
<b>Genotype</b>	0.388

<b>Results of Fisher's LSD multiple comparison</b>	<b>Summary</b>	<b>p value</b>
<b>Control w/o MPTP vs. Control w/ MPTP</b>	***	0.001
<b>Control w/o MPTP vs. Mutant w/o MPTP</b>	*	0.015
<b>Control w/o MPTP vs. Mutant w/ MPTP</b>	**	0.009
<b>Mutant w/o MPTP vs. Control w/ MPTP</b>	ns	0.110
<b>Mutant w/o MPTP vs. Mutant w/ MPTP</b>	ns	0.535
<b>Control w/ MPTP vs. Mutant w/ MPTP</b>	ns	0.363

**Suppl. Table S6**

Data and statistics for graphs shown in **Fig. 4D (upper panel)**, N: number of mice. Statistical significance is shown according to two-way ANOVA.

<b>4D) Number of TH positive neurons in SN (% of control w/o MPTP)</b>							
	<b>Raw numbers ±SEM</b>	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>N</b>
<b>Control w/o MPTP</b>	13292,98 ±1443,83	100	24.29	10.86	96.61	69.85 – 130.2	5
<b>Control w/ MPTP</b>	7553,68 ±607,4	56.82	10.22	4.57	57.74	44.14 – 69.51	5
<b>Mutant w/o MPTP</b>	10132,25 ±370,08	76.22	6.23	2.79	74.22	68.50 – 83.95	5
<b>Mutant w/ MPTP</b>	9922,19 ±548,25	74.64	9.22	4.12	74.33	63.19 – 86.09	5

<b>*Two-way ANOVA</b>	
<b>Source of Variation</b>	<b>P value</b>
<b>Interaction</b>	0.005
<b>Treatment</b>	0.65
<b>Genotype</b>	0.003

<b>Results of Fisher's LSD multiple comparison</b>	<b>Summary</b>	<b>p value</b>
<b>Control w/o MPTP vs. Control w/ MPTP</b>	*	0.018
<b>Control w/o MPTP vs. Mutant w/o MPTP</b>	***	0.0002
<b>Control w/o MPTP vs. Mutant w/ MPTP</b>	*	0.013
<b>Mutant w/o MPTP vs. Control w/ MPTP</b>	*	0.048
<b>Mutant w/o MPTP vs. Mutant w/ MPTP</b>	ns	0.067
<b>Control w/ MPTP vs. Mutant w/ MPTP</b>	ns	0.862

**Suppl. Table S7**

Data and statistics for graphs shown in **Fig. 4D (lower panel)**, N: number of mice. Statistical significance is shown according to two-way ANOVA.

<b>4D) Number of TH positive neurons in VTA (% of control w/o MPTP)</b>							
	<b>Raw numbers ±SEM</b>	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>N</b>
<b>Control w/o MPTP</b>	<b>16316.28 ±1726.9</b>	100	23.67	10.6	89.36	70.61 – 129.4	5
<b>Control w/ MPTP</b>	<b>9082.73 ±1150.4</b>	55.67	15.77	7.1	56.12	36.09 – 75.24	5
<b>Mutant w/o MPTP</b>	<b>12648.85 ±539.1</b>	77.52	7.9	3.3	76.77	68.35 – 86.69	5
<b>Mutant w/ MPTP</b>	<b>13929.94 ±1240.1</b>	85.37	16.99	7.6	80.99	64.27 – 106.5	5

<b>*Two-way ANOVA</b>	
<b>Source of Variation</b>	<b>P value</b>
<b>Interaction</b>	0.003
<b>Treatment</b>	0.029
<b>Genotype</b>	0.641

<b>Results of Fisher's LSD multiple comparison</b>	<b>Summary</b>	<b>P value</b>
<b>Control w/o MPTP vs. Control w/ MPTP</b>	***	0.001
<b>Control w/o MPTP vs. Mutant w/o MPTP</b>	ns	0.052
<b>Control w/o MPTP vs. Mutant w/ MPTP</b>	ns	0.192
<b>Mutant w/o MPTP vs. Control w/ MPTP</b>	ns	0.059
<b>Mutant w/o MPTP vs. Mutant w/ MPTP</b>	ns	0.475
<b>Control w/ MPTP vs. Mutant w/ MPTP</b>	*	0.014

**Suppl. Table S8**

Data and statistics for graphs shown in **Fig. 5C,F**, n: total number of analysed NeuN positive striatal neurons, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

<b>5C) Average PC length (µm)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>1 mo control</b>	4.85	0.33	0.19	4.686	4.02 – 5.68	240/3
<b>1 mo lft88<sup>DatCre</sup></b>	8.54	0.16	0.09	8.533	8.14 – 8.93	240/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>control vs. lft88<sup>DatCre</sup></b>	****	<0.0001

<b>5F) mean PC length (µm)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>6 mo control w/o MPTP</b>	6.29	0.04	0.02	6.271	6.20 – 6.38	240/3
<b>6 mo control w/ MPTP</b>	10.9	0.25	0.14	10.84	10.28 – 11.52	240/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>6 mo control w/o MPTP vs. control w/ MPTP</b>	****	<0.0001

**Suppl. Table S9**

Data and statistics for graphs shown in **Fig. 5K, L**, n: total number of analysed TH positive neurons in SN, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

<b>5K) mean PC length (µm)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>6 mo control w/o MPTP</b>	5.27	0.18	0.10	5.242	4.82 – 5.72	240/3
<b>6 mo control w/ MPTP</b>	5.43	0.86	0.5	4.958	3.29 – 7.58	240/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>control w/o MPTP vs. control w/ MPTP</b>	ns	0.76

<b>5L) mean PC length (µm)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>6 mo control w/o MPTP</b>	5.13	0.4	0.2	4.991	4.15 – 6.19	240/3
<b>6 mo control w/ MPTP</b>	5.77	0.7	0.4	5.596	4.07 – 7.45	240/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>control w/o MPTP vs. control w/ MPTP</b>	ns	0.23

**Suppl. Table S10**

Data and statistics for graphs shown in **Fig. 6C**, n: total number of analysed NeuN positive neurons in the striatum, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

<b>6C) mean PC length (µm)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>1 mo control</b>	4.85	0.33	0.19	4.686	4.02 – 5.68	240/3
<b>12 mo control</b>	7.39	0.13	0.07	7.359	7.07 – 7.70	240/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>control vs. lft88<sup>DatCre</sup></b>	***	0.0002

**Suppl. Table S11**

Data and statistics for graphs shown in **Fig. 6F**, n: total number of analysed TH positive neurons in SN and VTA, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

<b>6F) mean PC length (µm) SN</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>1 mo control</b>	5.94	0.57	0.33	5.679	4.53 – 7.35	240/3
<b>12 mo control</b>	4.42	0.99	0.57	4.098	1.95 – 6.88	240/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>p value</b>
<b>control vs. lft88<sup>DatCre</sup></b>	n.s.	<b>0.08</b>

<b>6I) mean PC length (µm) VTA</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>1 mo control</b>	6.08	0.67	0.39	5.993	4.41 – 7.75	240/3
<b>12 mo control</b>	3.95	0.91	0.53	4.073	1.68 – 6.21	240/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>control vs. lft88<sup>DatCre</sup></b>	*	<b>0.03</b>

**Suppl. Table S12**

Data and statistics for graphs shown in **Suppl. Fig. 1**, n: total number of analysed positive striatal sections, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

<b>TH immunoreactivity (% of control)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>n/N</b>
<b>E16.5 control</b>	100	31.35	18.1	103.4	22.12 – 177.9	7/3
<b>E16.5 lft88<sup>DatCre</sup></b>	99.7	32.93	19.0	88.52	17.89 – 181.5	7/3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>control vs. lft88<sup>DatCre</sup></b>	n.s.	<b>0.99</b>

**Suppl. Table S13**

Data and statistics for graphs shown in **Suppl. Fig. 3**, N: number of mice. Statistical significance is shown according to two-tailed unpaired t-test.

<b>DAT densitometric analysis (a.u.) (% of control)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>N</b>
<b>control</b>	100	87.5	35.7	72.11	8.21 – 191.8	6
<b>lft88<sup>DatCre</sup></b>	89.4	53.7	31.0	91.75	-44.04 – 222.8	3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>control vs. lft88<sup>DatCre</sup></b>	n.s	0.855

<b>TH densitometric analysis (a.u.) (% of control)</b>						
	<b>Mean</b>	<b>±SD</b>	<b>±SEM</b>	<b>Median</b>	<b>95% CI</b>	<b>N</b>
<b>control</b>	100	27.9	11.4	109.7	70.69 - 129.3	6
<b>lft88<sup>DatCre</sup></b>	48.2	28	16.2	53.36	-21.23 – 117.8	3

<b>Two-tailed unpaired t-test</b>	<b>Summary</b>	<b>P value</b>
<b>control vs. lft88<sup>DatCre</sup></b>	*	0.034