Supporting Information

Ranson et al. 10.1073/pnas.1112204109

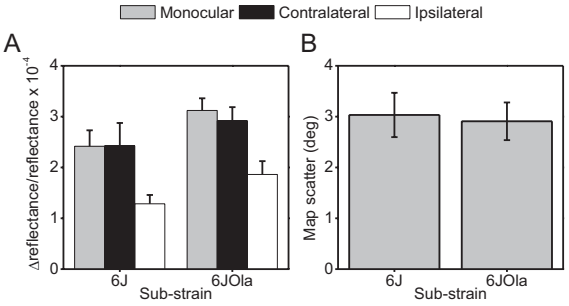

Fig. S1. In vivo intrinsic signal imaging shows similar V1 intrinsic signal response magnitude and retinotopic map in the 6J and 6JOla substrains. (*A*) The absolute intrinsic signal response magnitude is similar in control animals of the two substrains. (*B*) Retinotopic map scatter is comparable in the two substrains. $\Delta R/R$ (*R*, reflectance) and scatter values are shown as mean ± SEM.

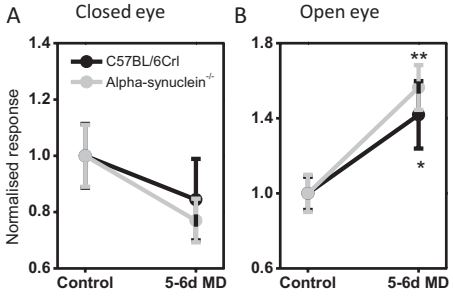

Fig. S2. In vivo intrinsic signal imaging shows a normal late homeostatic component of OD plasticity in α-synuclein KO mice. OD plasticity is comparable in animals with α-synuclein and without α-synuclein. (*A*) Closed eye. (*B*) Open eye. 6Crl: control, $n = 9$; 5–6 d MD, $n = 6$. α-synuclein: control, $n = 5$; 5–6 d MD, $n = 5$. $^{**}P < 0.01$; $^{*}P < 0.05$. Response values are shown as mean response normalized to control value ± SEM.

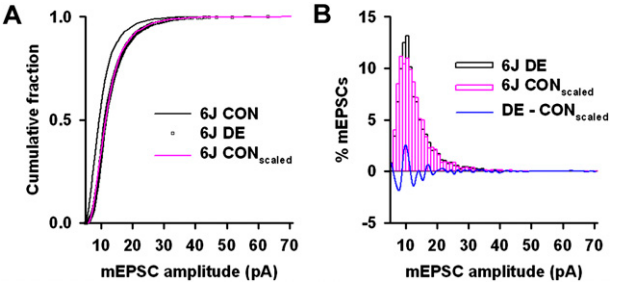

Fig. S3. Dark exposure (DE) results in multiplicative scaling of mEPSC amplitudes in 6J mice. (*A*) Cumulative distribution plot showing the effect of DE on raw mEPSC amplitude for 6J mice. $n = 50$ mEPSCs/neuron. The scaled distribution (6J CON_{scaled}) was generated by multiplying 6J control (CON) values by 1.22, the difference in mean mEPSC amplitude between 6J control and 6J dark-exposed groups. (*B*) Histogram showing the distribution of raw mEPSC amplitudes for 6J dark-exposed and 6J CON_{scaled} groups. mEPSC amplitudes are shown in 1-ms bins. The blue line indicates the difference between the 6J dark-exposed and 6J CON_{scaled} distributions (CON_{scaled} subtracted from DE).

Table S1. Dark exposure (DE) does not affect passive properties of L2/3 pyramidal neurons

	Resting membrane potential at break-in, mV	Input resistance, MΩ
6J control	−77 ± 1	71 ± 9
6J dark-exposed	−77 ± 0	88 ± 6
6JOla control	−76 ± 1	79 ± 9
6JOla dark-exposed	−77 ± 1	85 ± 11

Data are shown as grand mean ± SEM. There was no difference in resting membrane potential among the groups (effect of strain: $P = 0.20$, $F_{1,20} = 1.79$; effect of DE: $P = 0.55$, $F_{1,20} = 0.38$; interaction: $P = 1.00$, $F_{1,20} = 0.00$; two-way ANOVA). There also was no difference in input resistance between groups (effect of strain: $P = 0.78$, $F_{1,20} = 0.08$; effect of DE: $P = 0.23$, $F_{1,20} = 1.51$; interaction: $P = 0.60$, $F_{1,20} = 0.29$; two-way ANOVA).