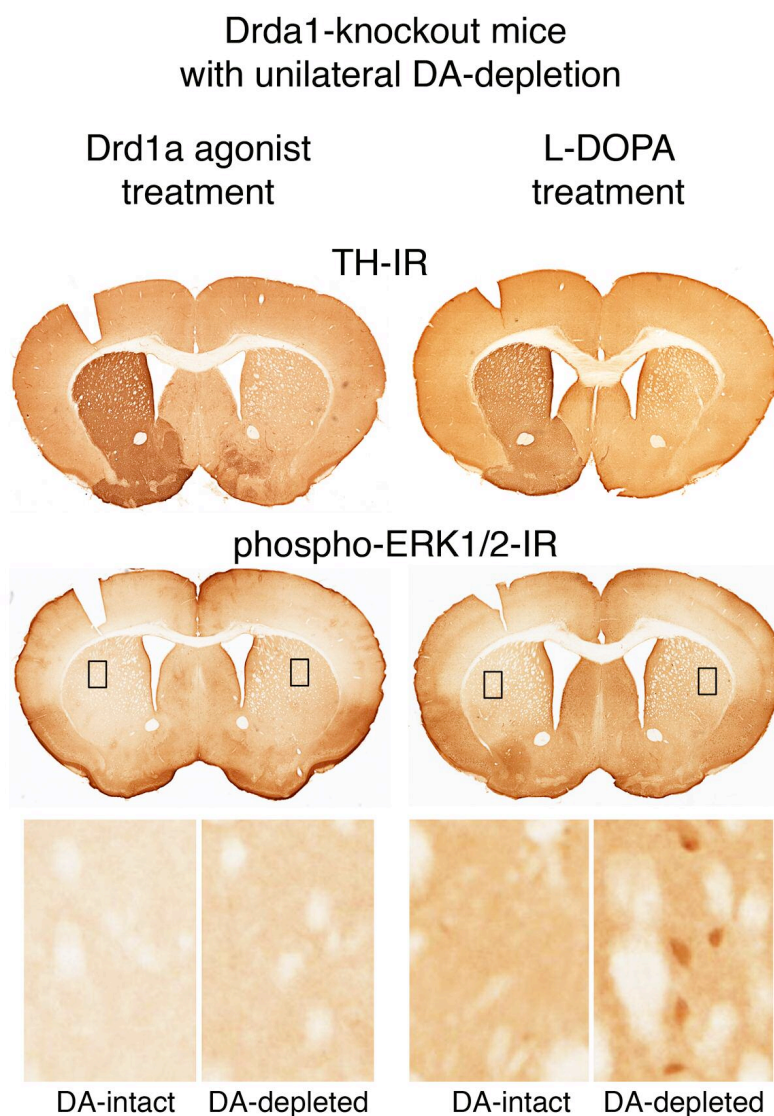


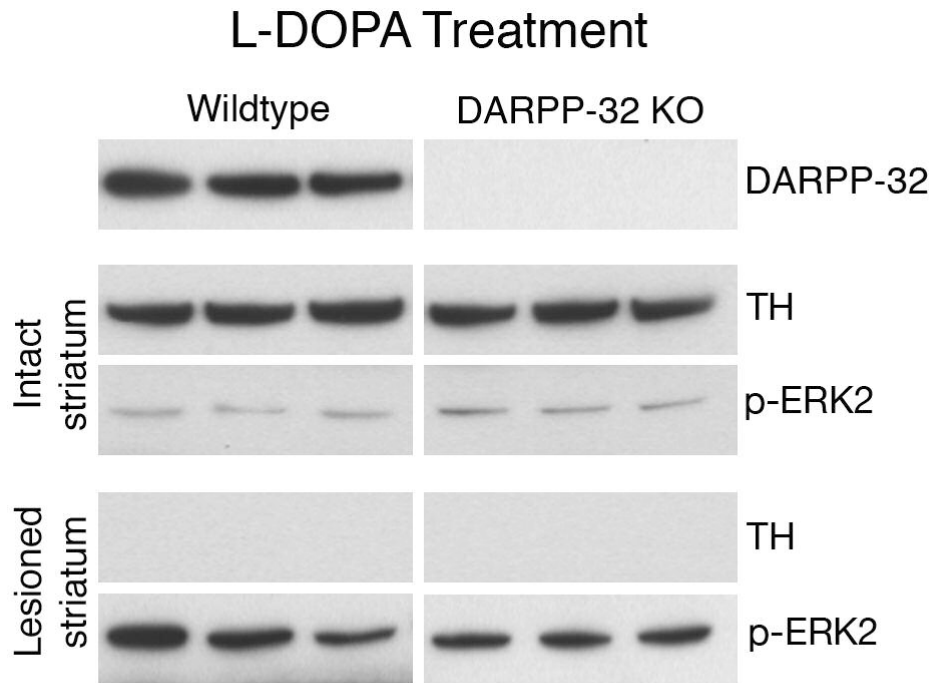
Supplementary Figure 1. Comparison of d-amphetamine and cocaine activation of ERK1/2 in wild type and DARPP-32-knockout mice. Effects of two psychostimulants, d-amphetamine (10mg/kg) and cocaine (20 mg/kg) on activation of ERK1/2 are compared between wild type and DARPP-32 KO mice. Activation of ERK1/2 is indicated in coronal brain sections by neurons displaying immunoreactive phosphorylated ERK1/2 (phospho-ERK1/2-IR). The regional pattern of ERK1/2 activation is similar for both psychostimulants, although the per cell labelling appears to be more robust with d-amphetamine treatment. Higher magnification images (the highest magnification shows an area 100 μ m²) are shown for the nucleus accumbens. In the DARPP-32 KO mice there is a significant reduction of the numbers of phospho-ERK1/2 IR neurons in the nucleus accumbens for both psychostimulant treatments.

127x163mm (300 x 300 DPI)



Supplementary Figure 2. Effects of Drd1a-agonist and L-DOPA in Drd1a-KO mice Drd1a knockout mice with unilateral lesions of the nigrostriatal dopamine system were treated with either the drd1a-agonist (SKF 81297, 5 mg/kg) or with L-DOPA (20 mg/kg with 12 mg/kg benserazide). Lesion of the right dopamine input to the right striatum is evident by the absence of TH-IR. Treatment with the drd1a-agonist produced no labeling of phospho-ERK1/2 immunoreactive neurons in either the dopamine-intact or dopamine depleted striatum Treatment with L-DOPA resulted in no phospho-ERK1/2 immunoreactive neurons in the dopamine-intact striatum and labeling of only scattered large neurons in the dopamine-depleted striatum.

101x155mm (300 x 300 DPI)



Supplementary Figure 3. Images of Western immunoblot used for data presented in Figure 5. Protein samples (18ug each) from the intact- and lesioned-striatum of wildtype (N=3) and DARPP-32 KO (N=3) animals were loaded onto one gel, separated, blotted and probed for phospho-ERK1/2 immunoreactivity. The blot was then stripped and re-probed for DARPP32- and tyrosine hydroxylase (TH)-immunoreactivity. Digitized images of the bands were used for quantitative analysis. The control value (100%) for each protein was the average value of the bands for the wild-type intact striatum. For illustrative purposes one band for each condition from these images were used in Figure 5.

84x67mm (300 x 300 DPI)