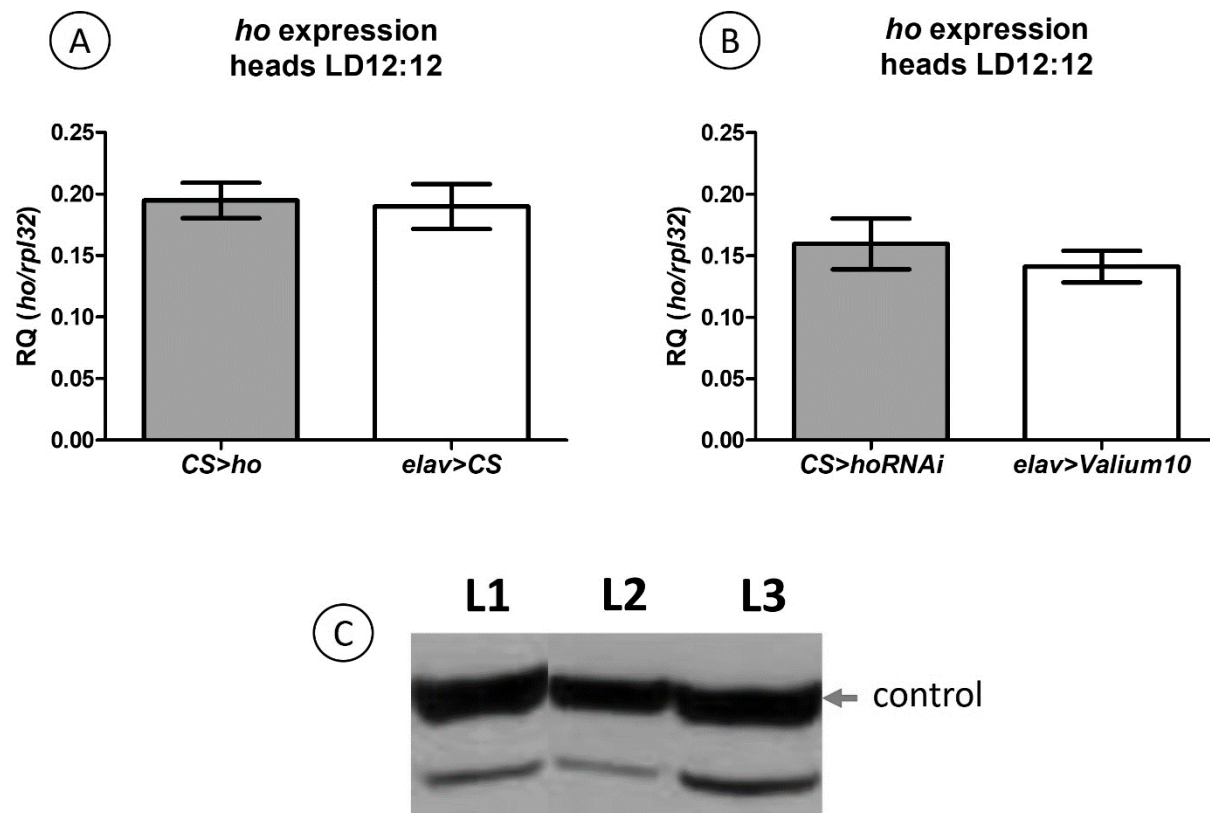


Supplementary Material

Supplementary Figure



Supplementary Figure 1. The expression of the *ho* gene did not change between control groups (A-B). Protein levels were also confirmed to be overexpressed or silenced in the experimental flies (C) with the following ratio: CS (L1) = 0.282, *elav>hoRNAi* (L2) = 0.167, and *elav>ho* (L3) = 0.445.

Supplementary Tables

Supplementary Table 1. Exact p values for each dopaminergic neuron (DA) cluster of the different combinations between genotypes and/or age groups.

7- vs 30-day-old								
Genotype	DA cluster	p	Genotype	DA cluster	p	Genotype	DA cluster	p
<i>ple>ho</i>	PAL	0.2	<i>ple>hoRNAi</i>	PAL	0.2	<i>ple>CS</i>	PAL	0.2
	PPL1	0.3		PPL1	1.0		PPL1	0.4
	PPL2	0.2		PPL2	0.4		PPL2	0.2
	PPM1/2	0.7		PPM1/2	0.8		PPM1/2	0.6
	PPM3	0.2		PPM3	1.0		PPM3	0.1
<i>ple>ho</i> vs <i>ple>CS</i> (7-day-old)			<i>ple>ho</i> vs <i>ple>CS</i> (30-day-old)					
DA cluster	p		DA cluster	p				
PAL	< 0.0001		PAL	< 0.0001				
PPL1	< 0.0001		PPL1	< 0.0001				
PPL2	< 0.0001		PPL2	< 0.0001				
PPM1/2	< 0.0001		PPM1/2	< 0.0001				
PPM3	< 0.0001		PPM3	< 0.0001				
<i>ple>hoRNAi</i> vs <i>ple>CS</i> (7-day-old)			<i>ple>hoRNAi</i> vs <i>ple>CS</i> (30-day-old)					
DA cluster	p		DA cluster	p				
PAL	< 0.0001		PAL	< 0.0001				
PPL1	< 0.0001		PPL1	< 0.0001				
PPL2	< 0.0001		PPL2	0.3				
PPM1/2	< 0.0001		PPM1/2	< 0.0001				
PPM3	< 0.0001		PPM3	0.03				

Supplementary Table 2. Exact *p* values of the percentage of survival and climbing ability, including *hid* expression, of the different combinations between genotypes and treated or non-treated groups. The non-parametric ANOVA Kruskal-Wallis test was used to analyse each combination.

% survival					
Genotype	Treatment	<i>p</i>	Genotype	Treatment	<i>p</i>
<i>elav>ho</i> vs <i>elav>CS</i> vs <i>CS>ho</i>	CTR	0.02	<i>elav>hoRNAi</i> vs <i>elav>Valium10</i> vs <i>CS>hoRNAi</i>	CTR	0.02
	CUR	0.003		CUR	0.03
% climbing ability					
Genotype	Treatment	<i>p</i>	Genotype	Treatment	<i>p</i>
<i>elav>ho</i> vs <i>elav>CS</i> vs <i>CS>ho</i>	CTR	0.1	<i>elav>hoRNAi</i> vs <i>elav>Valium10</i> vs <i>CS>hoRNAi</i>	CTR	0.05
	CUR	0.2		CUR	0.6
<i>hid</i> expression					
Genotype	Treatment	<i>p</i>	Genotype	Treatment	<i>p</i>
<i>elav>ho</i> vs <i>elav>CS</i> vs <i>CS>ho</i>	CTR	0.07	<i>elav>hoRNAi</i> vs <i>elav>Valium10</i> vs <i>CS>hoRNAi</i>	CTR	0.02*
	CUR	0.01		CUR	0.8

*inconsistent significant result (one parental control is not different from the experimental group)