Table S1. *dCORL* mutant virgin and mated adult longevity defects compared to seven control lines.

Genotype[a]	Mean Lifespan	P-value	Genotype	Mean Lifespan	Change	P-value	
Df(4) virgin female	12.0+/-11.4		*Df(4)* mated female	24.9+/-17.4	+108%	0.02	Mated longer
yw virgin[b]	27.3+/-11.7		*yw* mated	29.4+/-16.9	+ 08%	0.52	No diff
PB^{f07015} virgin	41.7+/-19.5		PB^{f07015} mated	57.0+/-19.7	+ 37%	0.04	Mated longer
$Glu\text{-}RA^{112b}$ virgin	72.1+/-20.9		$Glu\text{-}RA^{112b}$ mated	64.6+/-19.9	- 10%	0.32	No diff
$Glu\text{-}RA^{2b}$ virgin	57.7+/-25.8		$Glu\text{-}RA^{2b}$ mated	69.6+/-11.9	+ 20%	0.12	No diff
PB^{f06235} virgin	27.0+/-18.9		PB^{f06253} mated	25.5+/-17.3	- 06%	0.82	No diff
PB^{e02096} virgin	36.9+/-15.6		PB^{e02096} virgin	36.1+/-11.3	- 02%	0.89	No diff
spx^{720RW} virgin	48.3+/-22.9		spx^{720RW} mated	52.3+/-19.8	+ 09%	0.62	No diff
Df(4) virgin female	12.0+/-11.4	vs. *Df(4)*	*Df(4)* mated female	24.9+/-17.4		vs. *Df(4)*	
yw virgin	27.3+/-11.7	$2.3x10^{-6}$	*yw* mated	29.4+/-16.9		0.38	No diff
PB^{f07015} virgin	31.7+/-19.5	$1.7x10^{-3}$	PB^{f07015} mated	57.0+/-19.7		$5.1x10^{-5}$	*PB* longer
$Glu\text{-}RA^{112b}$ virgin	72.1+/-20.9	$2.2x10^{-9}$	$Glu\text{-}RA^{112b}$ mated	64.6+/-19.9		$2.6x10^{-6}$	*Glu* longer
$Glu\text{-}RA^{2b}$ virgin	57.7+/-25.8	$3.8x10^{-6}$	$Glu\text{-}RA^{2b}$ mated	69.6+/-11.9		$9.2x10^{-9}$	*Glu* longer
PB^{f06235} virgin	27.0+/-18.9	0.01	PB^{f06253} mated	25.5+/-17.3		0.92	No diff
PB^{e02096} virgin	36.9+/-15.6	$1.3x10^{-5}$	PB^{e02096} mated	36.1+/-11.3		0.04	*PB* longer
spx^{720RW} virgin	48.3+/-22.9	$1.4x10^{-5}$	spx^{720RW} mated	52.3+/-19.8		$3.5x10^{-4}$	*spx* longer
for virgins: yw significantly longer than *Df(4)*			for mated: no difference *yw* and *Df(4)*				
Df(4) virgin male	21.0+/-15.6		*Df(4)* mated male	36.9+/-05.0	+ 76%	$6.61x10^{-6}$	Mated longer
yw virgin	29.5+/-16.0		*yw* mated	25.7+/-15.0	- 13%	0.29	No diff
PB^{f07015} virgin	40.1+/-31.0		PB^{f07015} mated	49.8+/-12.9	+ 24%	0.32	No diff
$Glu\text{-}RA^{112b}$ virgin	67.2+/-15.4		$Glu\text{-}RA^{112b}$ mated	54.1+/-15.8	- 19%	0.03	Virgin longer
$Glu\text{-}RA^{2b}$ virgin	63.3+/-14.3		$Glu\text{-}RA^{2b}$ mated	52.7+/-21.4	- 17%	0.12	No diff
PB^{f06235} virgin	26.2+/-22.2		PB^{f06253} mated	30.4+/-15.3	+ 16%	0.06	No diff
PB^{e02096} virgin	44.1+/-27.1		PB^{e02096} mated	25.1+/-10.4	- 43%	0.02	Virgin longer
spx^{720RW} virgin	47.6+/-21.2		spx^{720RW} mated	46.6+/-13.5	+ 02%	0.88	No diff
Df(4) virgin male	21.0+/-15.6	vs. *Df(4)*	*Df(4)* mated male	36.9+/-05.0		vs. *Df(4)*	
yw virgin	29.5+/-16.0	0.04	*yw* mated	25.7+/-15.1		2.0x10-5	*Df(4)* longer
PB^{f07015} virgin	40.1+/-31.0	0.04	PB^{f07015} mated	49.8+/-19.9		0.02	*PB* longer
$Glu\text{-}RA^{112b}$ virgin	67.2+/-15.4	$1.5x10^{-10}$	$Glu\text{-}RA^{112b}$ mated	54.1+/-15.8		8.1x10-4	*Glu* longer
$Glu\text{-}RA^{2b}$ virgin	63.3+/-14.3	$1.8x10^{-10}$	$Glu\text{-}RA^{2b}$ mated	52.7+/-21.4		0.01	*Glu* longer
PB^{f06253} virgin	26.2+/-22.2	0.42	PB^{f06253} mated	40.4+/-15.3		0.41	No diff
PB^{e02096} virgin	44.1+/-27.1	$6.1x10^{-3}$	PB^{e02096} mated	25.1+/-10.4		6.7x10-4	*Df(4)* longer
spx^{720RW} virgin	47.6+/-21.2	$2.4x10^{-4}$	spx^{720RW} mated	46.6+/-13.5		0.02	*spx* longer
for virgins: *yw* significantly longer than *Df(4)*			for mated: *Df(4)* significantly longer than *yw*				

a. Mutation locations shown in genomic map in Tran et al. 2018.
b. Note that *yw* is the background of *Df(4)dCORL*, $Pbac\{WH\}^{f07015}$, $Glu\text{-}RA^{112b}$ and $Glu\text{-}RA^{2b}$. $Pbac\{WH\}^{f06253}$ and $Pbac\{RB\}^{e02096}$ have only a *w* mutation on their X chromosomes. spx^{720RW} has a wild type X chromosome

Table S2. Mean & median longevity of *dCORL* virgin and mated adults with seven controls.

Genotype	Mean Lifespan	Median Lifespan	Δ	Genotype	Mean Lifespan	Median Lifespan	Δ[a]
Df(4) virgin female	12.0+/-11.4	10.0	-2.0	*Df(4)* mated female	24.9+/-17.4	33.5	+8.6
yw virgin[b]	27.3+/-11.7	25.5	-1.8	*yw* mated	29.4+/-16.9	35.0	+5.6
PB^{f07015} virgin	41.7+/-19.5	36.0	+5.7	PB^{f07015} mated	57.0+/-19.7	61.0	+4.0
$Glu\text{-}RA^{112b}$ virgin	72.1+/-20.9	79.0	+6.9	$Glu\text{-}RA^{112b}$ mated	64.6+/-19.9	70.5	+5.9
$Glu\text{-}RA^{2b}$ virgin	57.7+/-25.8	65.0	+7.3	$Glu\text{-}RA^{2b}$ mated	69.6+/-11.9	72.5	+2.9
PB^{f06235} virgin	27.0+/-18.9	24.5	-2.5	PB^{f06253} mated	25.5+/-17.3	23.5	-2.0
PB^{e02096} virgin	36.9+/-15.6	43.0	+6.1	PB^{e02096} virgin	36.1+/-11.3	35.5	-0.6
spx^{720RW} virgin	48.3+/-22.9	47.0	-1.3	spx^{720RW} mated	52.3+/-19.8	60.0	+7.7
Df(4) virgin male	21.0+/-15.6	23.5	+2.5	*Df(4)* mated male	36.9+/-05.0	37.0	+0.1
yw virgin	29.5+/-16.0	26.0	-3.5	*yw* mated	25.7+/-15.0	27.5	+1.8
PB^{f07015} virgin	40.1+/-31.0	38.0	-2.1	PB^{f07015} mated	49.8+/-12.9	52.0	+2.2
$Glu\text{-}RA^{112b}$ virgin	67.2+/-15.4	66.0	-1.2	$Glu\text{-}RA^{112b}$ mated	54.1+/-15.8	57.5	+3.4
$Glu\text{-}RA^{2b}$ virgin	63.3+/-14.3	70.0	+6.7	$Glu\text{-}RA^{2b}$ mated	52.7+/-21.4	52.0	-0.7
PB^{f06235} virgin	26.2+/-22.2	25.0	-1.2	PB^{f06253} mated	30.4+/-15.3	33.5	+3.1
PB^{e02096} virgin	44.1+/-27.1	44.0	-0.1	PB^{e02096} mated	25.1+/-10.4	28.0	+2.9
spx^{720RW} virgin	47.6+/-21.2	47.0	-0.6	spx^{720RW} mated	46.6+/-13.5	41.5	-5.1

a. All means and medians are within 20% of each other except *Df(4)* mated females have a median lifespan 36% longer than their mean lifespan.

Table S3. Significant brain size reduction is present in *Df(4)dCORL* larvae but not adults.

Genotype, virgin/mated, age in days post-eclosion	n	Larval or adult brain size (pixels)	P-value vs. *yw* virgin	P-value vs. *Df(4)* virgin	P-value vs. *Df(4)* 3 day mated
Third instar larvae					
yw	8	31682 ± 3037			
Df(4)dCORL	7	20304 ± 5718	0.001		
Adult					
yw ,virgin	6	49382 ± 3276			
Df(4), virgin, 1 day	8	47181 ± 3688	0.305		
Df(4), mated, 3 day	7	48228 ± 4281	0.630	0.644	
Df(4), mated, 15 day	8	50802.± 2807	0.435	0.058	0.217