

Table S1

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Gal4	UAS	Stage	UAS			Gal4			Gal4 + UAS			P		Change
			N	Mean	STD	N	Mean	STD	N	Mean	STD	vs UAS	vs Gal4	
da-GAL4	2.1	L1	8	98.0	2.1	8	97.0	2.8	8	93.0	4.7	0.0154	0.0568	
		Pupa	8	82.6	8.9	8	93.9	3.8	8	78.7	14.0	0.5202	0.0105	
		Adult	8	98.6	2.5	8	98.9	3.1	8	99.3	1.9	0.5372	0.7406	
da-GAL4	4.3	L1	8	94.5	3.7	8	97.0	2.8	8	96.0	4.3	0.4637	0.5899	
		Pupa	8	78.7	13.4	8	93.9	3.8	8	84.9	5.0	0.2411	0.0012	
		Adult	8	97.0	3.3	8	98.9	3.1	8	94.1	8.6	0.3900	0.1545	
da-GAL4	9.1	L1	8	97.0	3.5	8	97.0	2.8	8	98.5	2.1	0.3190	0.2462	
		Pupa	8	80.4	3.2	8	93.9	3.8	8	<b>76.1</b>	4.1	0.0359	0.0000	
		Adult	8	98.8	3.5	8	98.9	3.1	8	99.3	2.0	0.7035	0.7654	
da-GAL4	3.1	L1	8	94.5	5.2	8	97.0	2.8	8	95.0	5.1	0.8494	0.3504	↓
		Pupa	8	84.3	4.8	8	93.9	3.8	8	85.9	7.5	0.6152	0.0181	
		Adult	8	98.2	3.6	8	98.9	3.1	8	98.2	2.5	0.9984	0.5996	
da-GAL4	4.4	L1	8	98.0	3.7	8	97.0	2.8	8	96.0	4.8	0.3654	0.6186	
		Pupa	8	91.3	8.7	8	93.9	3.8	8	96.9	2.9	0.1070	0.0921	
		Adult	8	96.2	5.7	8	98.9	3.1	8	95.6	6.2	0.8593	0.1974	
da-GAL4	3.2/CyO	L1	16	96.8	3.3	8	97.0	2.8	16	95.8	3.1	0.3940	0.3476	
		Pupa	16	94.8	4.6	8	93.9	3.8	16	92.0	6.4	0.2323	0.4569	
		Adult	16	46.3	11.0	8	98.9	3.1	16	43.5	10.9	0.6573	NA	
da-GAL4	10.1/CyO	L1	16	97.0	4.0	8	97.0	2.8	16	94.3	4.4	0.0733	0.1220	
		Pupa	16	84.0	8.2	8	93.9	3.8	16	90.5	6.1	0.0154	0.1679	
		Adult	16	48.6	10.5	8	98.9	3.1	16	57.5	18.2	0.1006	NA	
DJ694	2.1	L1	8	95.0	4.7	8	80.5	9.2	8	78.0	8.0	0.0001	0.5707	
		Pupa	8	93.8	5.1	8	89.7	7.0	8	81.0	10.6	0.0086	0.0743	
		Adult	8	98.2	2.4	8	99.2	2.2	8	95.4	6.9	0.2865	0.1563	
DJ694	4.3	L1	8	95.0	5.1	8	80.5	9.2	8	80.0	12.1	0.0061	0.9271	↓
		Pupa	8	92.7	3.6	8	89.7	7.0	8	<b>70.8</b>	15.9	0.0020	0.0083	
		Adult	8	94.8	3.8	8	99.2	2.2	8	96.8	3.4	0.2968	0.1170	
DJ694	9.1	L1	8	98.0	3.0	8	80.5	9.2	8	<b>65.0</b>	10.0	0.0000	0.0060	
		Pupa	8	90.6	9.0	8	89.7	7.0	8	77.5	17.3	0.0776	0.0849	
		Adult	8	98.4	3.0	8	99.2	2.2	8	99.0	2.9	0.7306	0.8444	
DJ694	3.1	L1	8	94.5	6.0	8	80.5	9.2	8	78.5	8.3	0.0006	0.6540	
		Pupa	8	83.0	13.1	8	89.7	7.0	8	74.4	6.1	0.1123	0.0004	
		Adult	8	96.0	4.8	8	99.2	2.2	8	96.3	6.0	0.9216	0.2168	
DJ694	4.4	L1	8	96.0	3.0	8	80.5	9.2	8	87.5	10.1	0.0392	0.1695	
		Pupa	8	95.8	5.1	8	89.7	7.0	8	93.2	3.8	0.2667	0.2318	
		Adult	8	94.5	5.1	8	99.2	2.2	8	95.6	3.2	0.6213	0.0182	
DJ694	3.2/CyO	L1	16	94.8	5.2	8	80.5	9.2	16	78.0	7.9	0.0000	0.4943	
		Pupa	16	94.5	4.9	8	89.7	7.0	16	85.9	11.2	0.0161	0.3970	
		Adult	16	53.9	12.9	8	99.2	2.2	16	50.2	8.5	0.3201	NA	
DJ694	10.1/CyO	L1	16	96.5	3.2	8	80.5	9.2	16	<b>61.3</b>	11.5	0.0000	0.0005	↓
		Pupa	16	91.0	6.1	8	89.7	7.0	16	94.2	6.2	0.1452	0.1227	
		Adult	16	56.7	9.1	8	99.2	2.2	16	56.6	10.1	0.9958	NA	
D42	2.1	L1	8	91.5	8.9	8	96.5	2.6	8	94.0	4.8	0.4965	0.2134	
		Pupa	8	83.1	2.1	8	91.2	6.7	8	87.3	8.6	0.2012	0.3266	
		Adult	8	98.1	2.6	8	96.7	3.8	8	96.9	4.5	0.5063	0.9423	
D42	4.3	L1	8	96.5	3.3	8	96.5	2.6	8	95.5	4.5	0.6217	0.5938	
		Pupa	8	89.7	9.5	8	91.2	6.7	8	90.7	7.3	0.8189	0.8912	
		Adult	8	95.9	4.4	8	96.7	3.8	8	97.7	3.7	0.4073	0.6179	

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Gal4	UAS	Stage	UAS			Gal4			Gal4 + UAS			P		Change
			N	Mean	STD	N	Mean	STD	N	Mean	STD	vs UAS	vs Gal4	
D42	9.1	L1	8	96.0	4.3	8	96.5	2.6	8	93.0	4.1	0.1759	0.0615	
		Pupa	8	91.0	6.7	8	91.2	6.7	8	94.7	5.3	0.2444	0.2664	
		Adult	8	96.1	4.2	8	96.7	3.8	8	98.9	2.0	0.1086	0.1675	
D42	3.1	L1	8	93.5	6.4	8	96.5	2.6	8	93.5	7.4	1.0000	0.2962	
		Pupa	8	92.1	5.1	8	91.2	6.7	8	87.1	8.1	0.1540	0.2859	
		Adult	8	87.3	15.8	8	96.7	3.8	8	93.8	5.3	0.2900	0.2227	
D42	4.4	L1	8	97.5	3.0	8	96.5	2.6	8	99.0	2.8	0.3190	0.0852	
		Pupa	8	74.7	16.8	8	91.2	6.7	8	87.0	6.6	0.0745	0.2258	
		Adult	8	96.9	3.5	8	96.7	3.8	8	99.4	1.8	0.1029	0.0922	
D42	3.2/CyO	L1	16	96.3	5.4	8	96.5	2.6	16	93.0	3.7	0.0690	0.0265	
		Pupa	16	87.1	7.8	8	91.2	6.7	16	88.4	7.2	0.5426	0.3694	
		Adult	16	48.2	6.5	8	96.7	3.8	16	46.7	6.2	0.4143	NA	
D42	10.1/CyO	L1	16	97.3	3.5	8	96.5	2.6	16	98.0	2.9	0.5150	0.2310	
		Pupa	16	89.0	6.4	8	91.2	6.7	16	94.9	5.1	0.0069	0.1423	
		Adult	16	39.1	6.6	8	96.7	3.8	16	39.0	5.1	0.9748	NA	

**Table S1. Developmental analysis of Hsp70 overexpression.** Percentage hatching (L1), pupation (Pupa) and eclosion (Adult) are compared between experimental animals (Gal4+UAS) and control animals missing the driver (UAS) or UAS (Gal4) transgene (P: Kruskal-Wallis test). The first columns indicate the genotype of the mother while the second column indicate the genotype of the father used to generate the experimental and control animals. The change column indicates experimental animals that are significantly ( $P < 0.05$ ) lower than both controls. N: number of independent measurements, STD: Standard deviation.