

**TABLE S3**

**Escape response times for Gyc-89Da and Gyc-89Db single and double mutants compared to parental fly lines used for Gyc-89Da and Gyc-89Db rescue assays**

	Mutant backgrounds			
	Gyc-89Da	Gyc-89Db	Gyc-89Da/Db	
-/-	91.93 ± 10.09	86.98 ± 7.02	178.5 ± 17.81	0%
	121.8 ± 9.53	128.3 ± 12.28	243.8 ± 23.14	5%
	144.1 ± 13.13	128.9 ± 13.08	233.5 ± 26.11	10%
Da <sup>GAL4</sup> ;-/-	96.70 ± 9.403	93.60 ± 14.93	167.3 ± 23.92	0%
	136.40 ± 19.77	139.7 ± 20.47	209.30 ± 31.76	5%
	141.0 ± 15.84	120.8 ± 20.18	235.2 ± 30.80	10%
Db <sup>GAL4</sup> ;-/-	ND	91.95 ± 11.24	180.7 ± 27.45	0%
	ND	142.60 ± 19.84	216.40 ± 33.16	5%
	ND	118.7 ± 16.18	224.1 ± 36.67	10%
UASDa;-/-	95.20 ± 19.29	84.65 ± 11.50	182.10 ± 24.71	0%
	129.40 ± 13.83	133.70 ± 19.97	221.50 ± 33.11	5%
	134.6 ± 45.42	115.8 ± 14.57	225.1 ± 30.39	10%
UASDb;-/-	ND	93.60 ± 11.11	177.40 ± 28.44	0%
	ND	147.3 ± 22.45	217.20 ± 28.00	5%
	ND	113.2 ± 19.43	206.2 ± 33.49	10%

Values represent mean ± SEM at three O<sub>2</sub> concentrations (0%, 5% and 10%). (-/-) represents mutant backgrounds (N=40); (Da<sup>GAL4</sup>;-/- and Db<sup>GAL4</sup>;-/-) represents the GAL4 construct in the different mutant backgrounds (N=20), and (UASDa;-/- and UASDb;-/-) represents the UAS construct in the mutant background (N=20). ND = not determined (90% of animals were Db<sup>GAL4</sup>;-/-Sb or UASDb;-/-Sb)