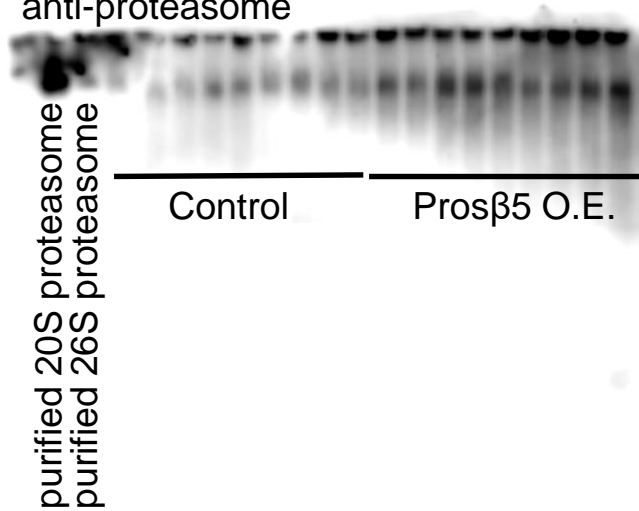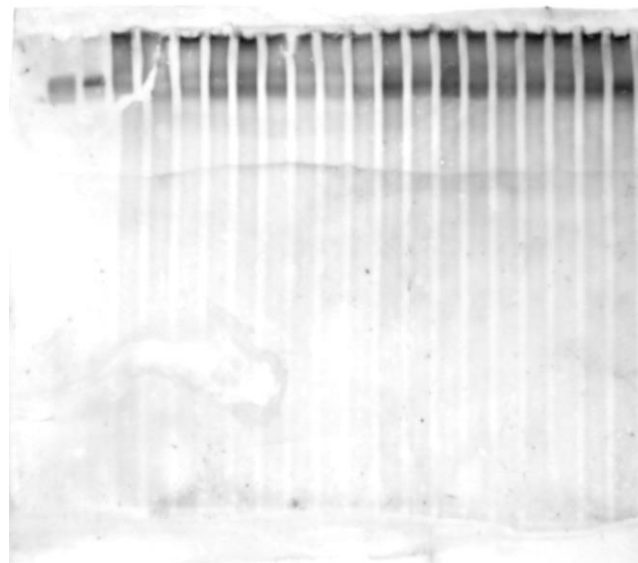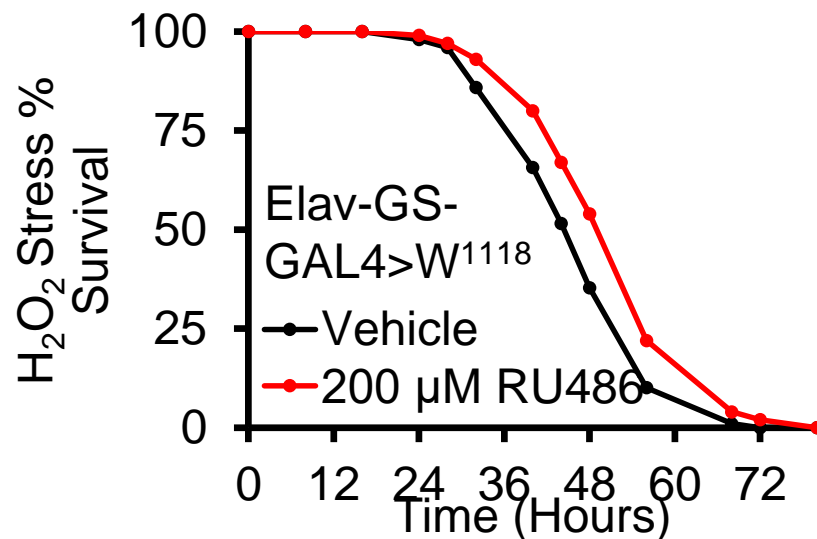Native PAGE immunoblot
(uncropped)
anti-proteasome

Protein loading
(india ink stain)

purified 20S proteasome
purified 26S proteasome

Control   Prosβ5 O.E.

Supplemental Figure 1:
Uncropped Native PAGE immunoblot from Figure 1C
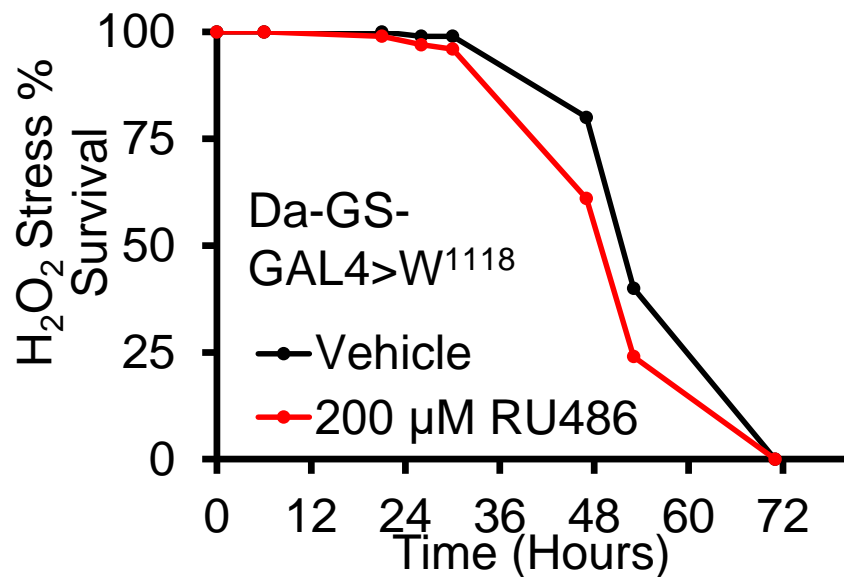
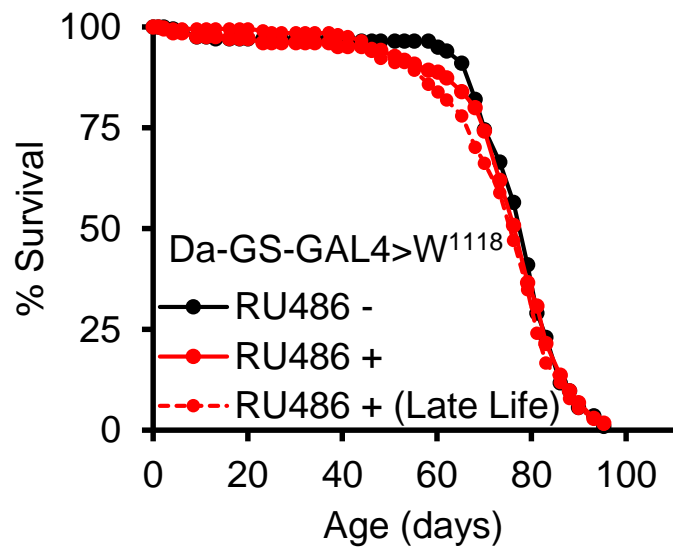Supplemental Figure 2:
H_2O_2 stress survival assay RU486 controls for Figures 1E and 2F. RU486 treatment produces minimal changes to oxidative stress under control of the drivers Da-GS-GAL4 and Elav>GS-GAL4. Flies were fed 4.4M H_2O_2 mixed with 5% sucrose, survival was monitored every 8 hr, N = 75. Flies were removed from RU486 during stress assay to prevent potential differences in consumption.

	- RU486	+ RU486	%	Chi-Square	Logrank
DA-GS-GAL4>UAS-Prosβ5					
N ≈ 200					
Median (50%)	75.4	75.3	-0.2	2.5	0.11
Maximum (10%)	87.1	84.9	-2.6		
Tub5-GS-GAL4>UAS-Prosβ5					
N ≈ 250					
Median (50%)	66.0	66.5	0.8	0.2	0.64
Maximum (10%)	74.7	73.7	-1.3		

Supplemental Figure 3:
Lifespan statistics for Figures 1F-G.
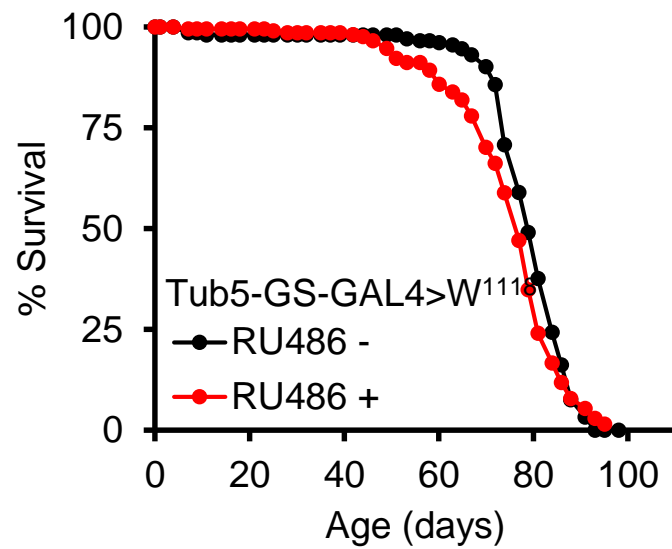
Supplemental Figure 4:
Lifespan RU486 controls for Figure 1F-G.

Elav-GS-GAL4>UAS-Prosβ5				
- RU486	+ RU486	%	Chi-Square	Logrank
Lifespan 1 N ≈ 250				
Median (50%) 77.4	86.5	11.9	66	4.44×10^{-16}
Maximum (10%) 89.1	98.4	10.4		
Lifespan 2 N ≈ 175				
Median (50%) 63.3	68.7	8.5	77.8	$<1 \times 10^{-18}$
Maximum (10%) 68.7	77.6	12.9		
Lifespan 3 N ≈ 225				
Median (50%) 67.0	77.8	16.1	176	$<1 \times 10^{-18}$
Maximum (10%) 70.0	85.3	21.7		
Lifespan 4 N ≈ 250				
Median (50%) 83.9	88.9	5.9	22.6	2.03×10^{-6}
Maximum (10%) 93.1	99.2	6.5		

Elav-GS-GAL4>W[1118]				
- RU486	+ RU486	%	Chi-Square	Logrank
Lifespan 1 N ≈ 175				
Median (50%) 98.0	97.3	-0.7	2.4	0.12
Maximum (10%) 104.5	104.4	-0.2		
Lifespan 2 N ≈ 175				
Median (50%) 85.5	86.6	1.2	77.8	0.04
Maximum (10%) 92.2	95.6	3.6		

Supplemental Figure 5:
Lifespan statistics for Figures 2A-B.
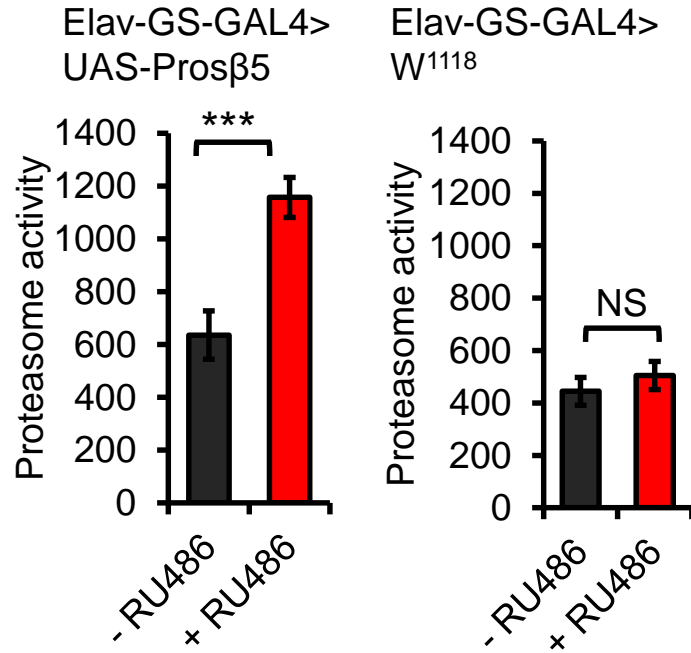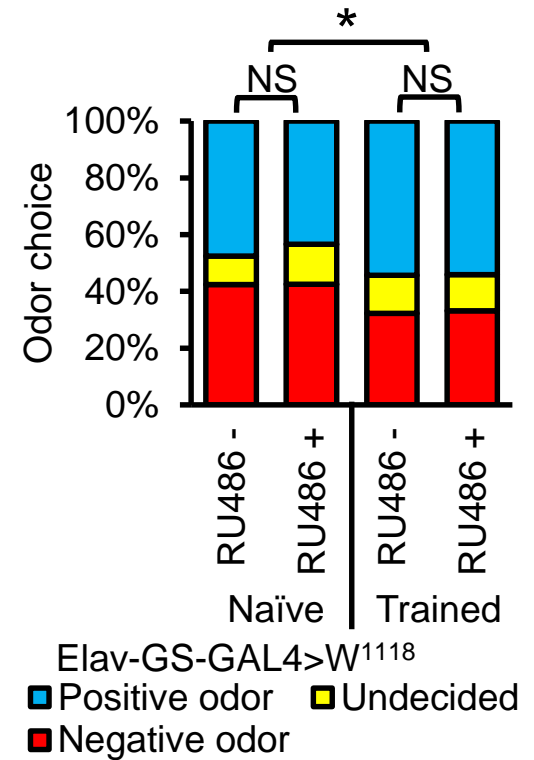
Supplemental Figure 6:
A. RU486-induced Prosβ5 overexpression increases under control of the Elav-GS-GAL4 (Elav-GS-GAL4>Prosβ5) driver increases 20S proteasome based on an Suc-LLVY-AMC activity assay. No increase in activity seen in flies lacking the transgene (Elav-GS-GAL4>W[1118]), N = 12. **B**. RU486 treatment does not alter behavior in olfaction aversion training. Assay performed in 10 day old Elav-GS-GAL4>W[1118] flies, N = 150.