

Supplemental

Table S1. Primers

gene	Forward primer	Reverse primer
<i>gapdh-2</i>	5' ACTCTTCACGATTGTCGCTTAGT 3'	5' AACCCACATACGGACGGTTG 3'
<i>ges-1</i>	5' GCTAAAACCGGAGTTCCCCAA 3'	5' CGTTCCAGAAAGCGAGAGGT 3'
<i>hsp-90</i>	5' ATTCGCTACCAGGCACTCAC 3'	5' GACAAGATCGGCCTTGGTCA 3'
<i>unc-45</i>	5' TGCTGAAGGTGGAACGGTTT 3'	5' CGTATGCTCGTTGTCCAGGG 3'
<i>unc-54</i>	5' ATCCAAGCCATTTCATGCCGA 3'	5' GGTCACGTGCTGAGAGTGT 3'
<i>myo-3</i>	5' TCCAGAAGATGGATTTCGTCGC 3'	5' GCGGGTTCATCTCTTGGCAT 3'

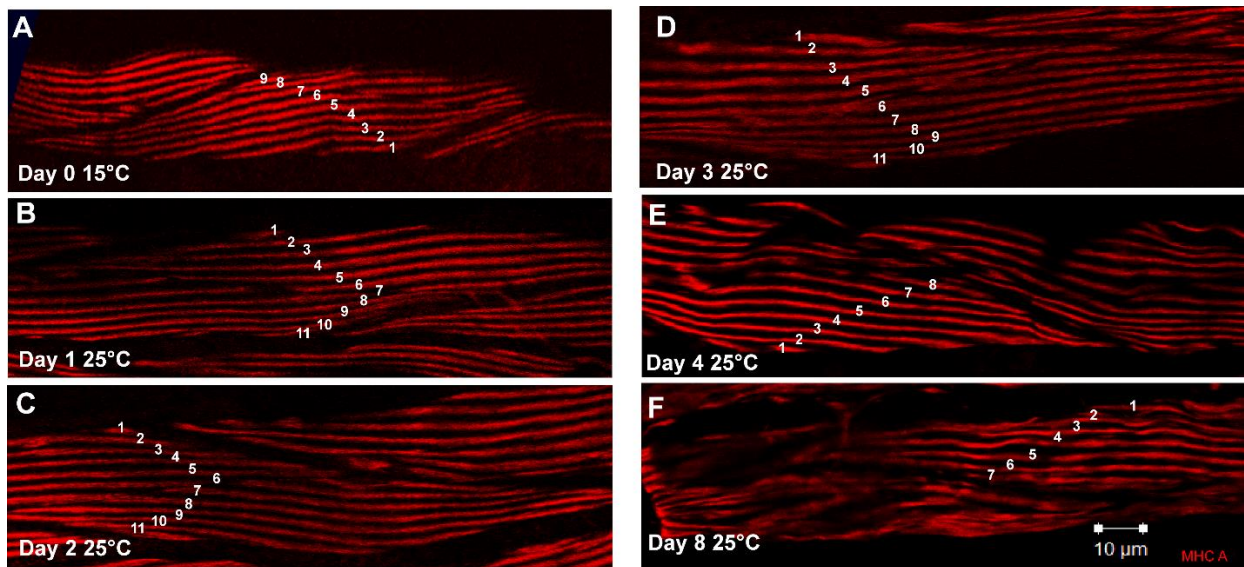


Figure S1. *unc-45(e286)* representative images of MHC A immunostaining to count A-bands as an assessment of assembled thick filament quantity. A-F) are representative images of body wall muscle near the vulva immunostained with anti-MHC A at different ages of adulthood (day 0, 1, 2, 3, 4, 8) and grown at either 15°C (A) or 25°C (B-F) with an A-band count depicted as white numbers along the A-bands.

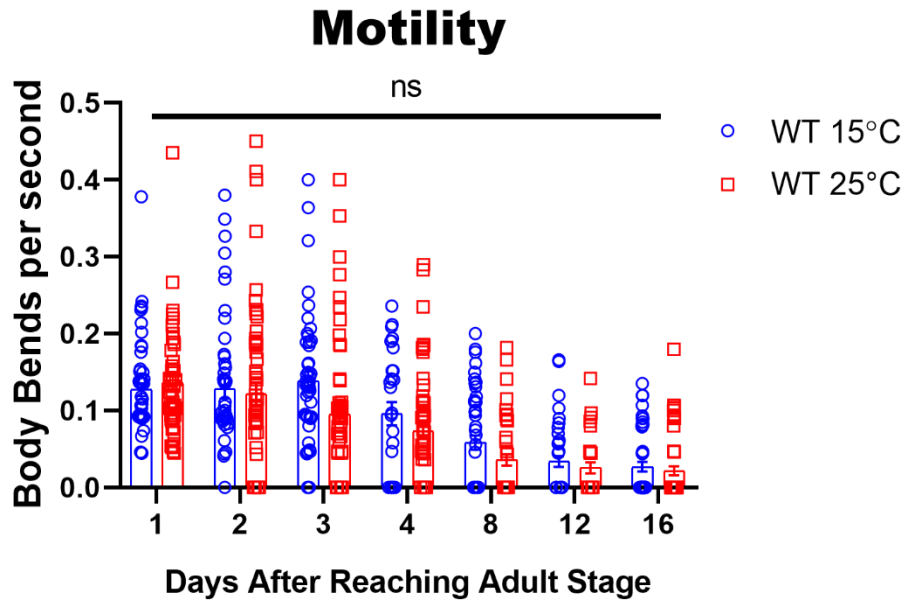


Figure S2. Crawling motility does not change significantly when wildtype worms are grown at 15°C vs. 25°C. Quantification of agar crawling motility assays at different ages of adulthood and grown at either 15°C or 25°C measured in body bends per second.

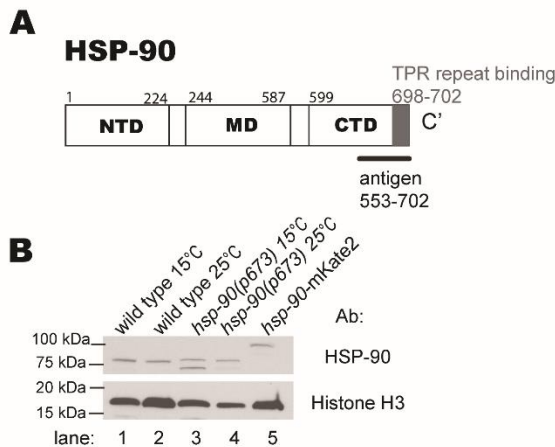


Figure S3. HSP-90 Antibody validation. A) shows the protein domains of HSP-90 and the epitope that was used as an antigen when creating the antibody. B) shows a Western Blot validating the antibody that was produced. shows HSP-90 loss of function temperature sensitive mutants (lanes 3-4) compared to wild type (lanes 1-2) to show that the mutants have altered HSP-90 and one CRISPR generated fluorescently tagged (mKate2) HSP-90 strain (lane 5) compared to wild type (lanes 1-2) to show that the antibody recognizes one protein band of the appropriate size (106.3 and 80.3 kDa respectively).

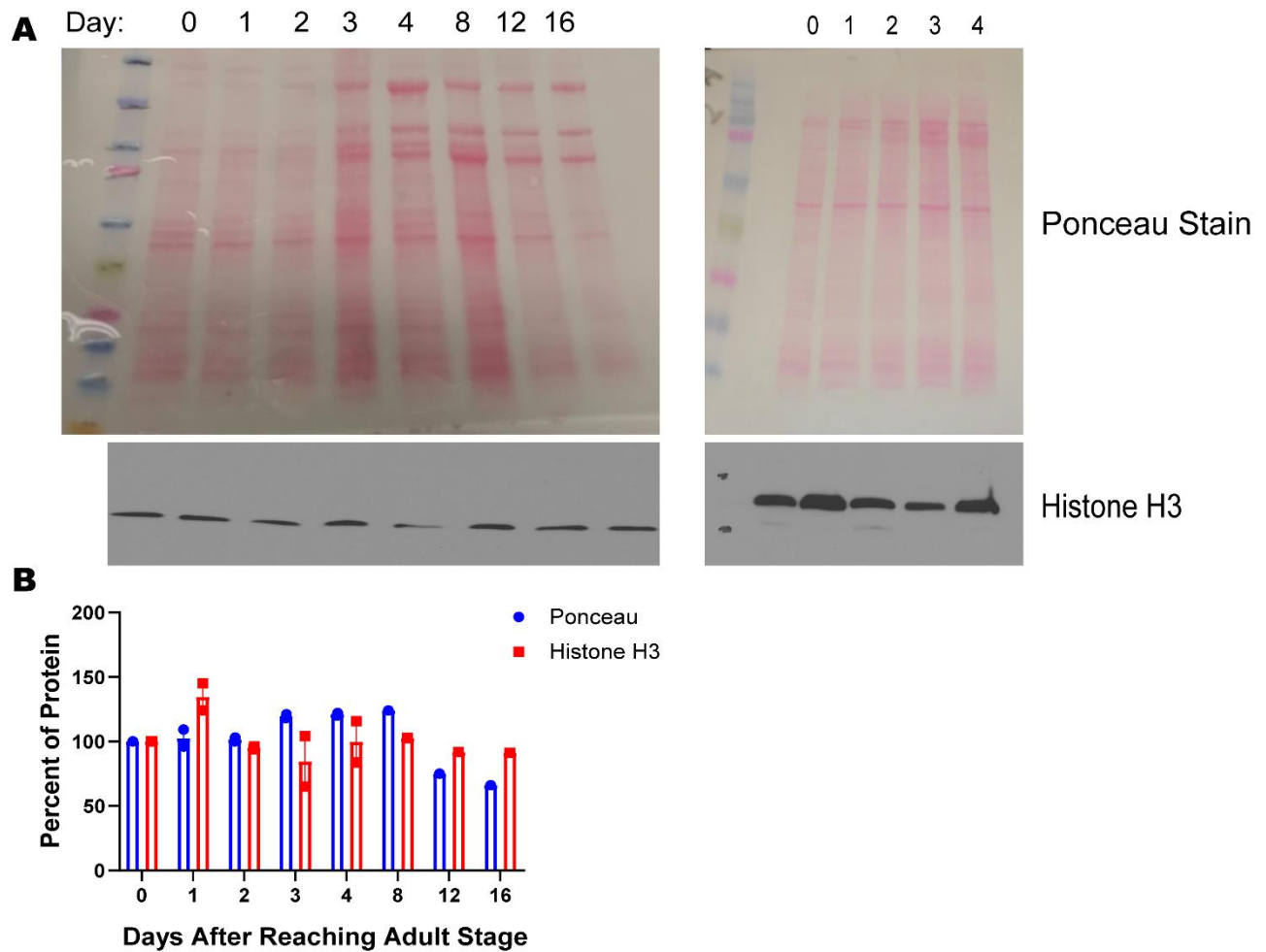


Figure S4. Histone H3 compared to Ponceau S staining. A) depicts Ponceau S staining above the Histone H3 from the same blot. B) depicts quantification of Ponceau S staining levels compared to Histone H3 levels at different ages. Fiji Image J was used to measure protein levels.

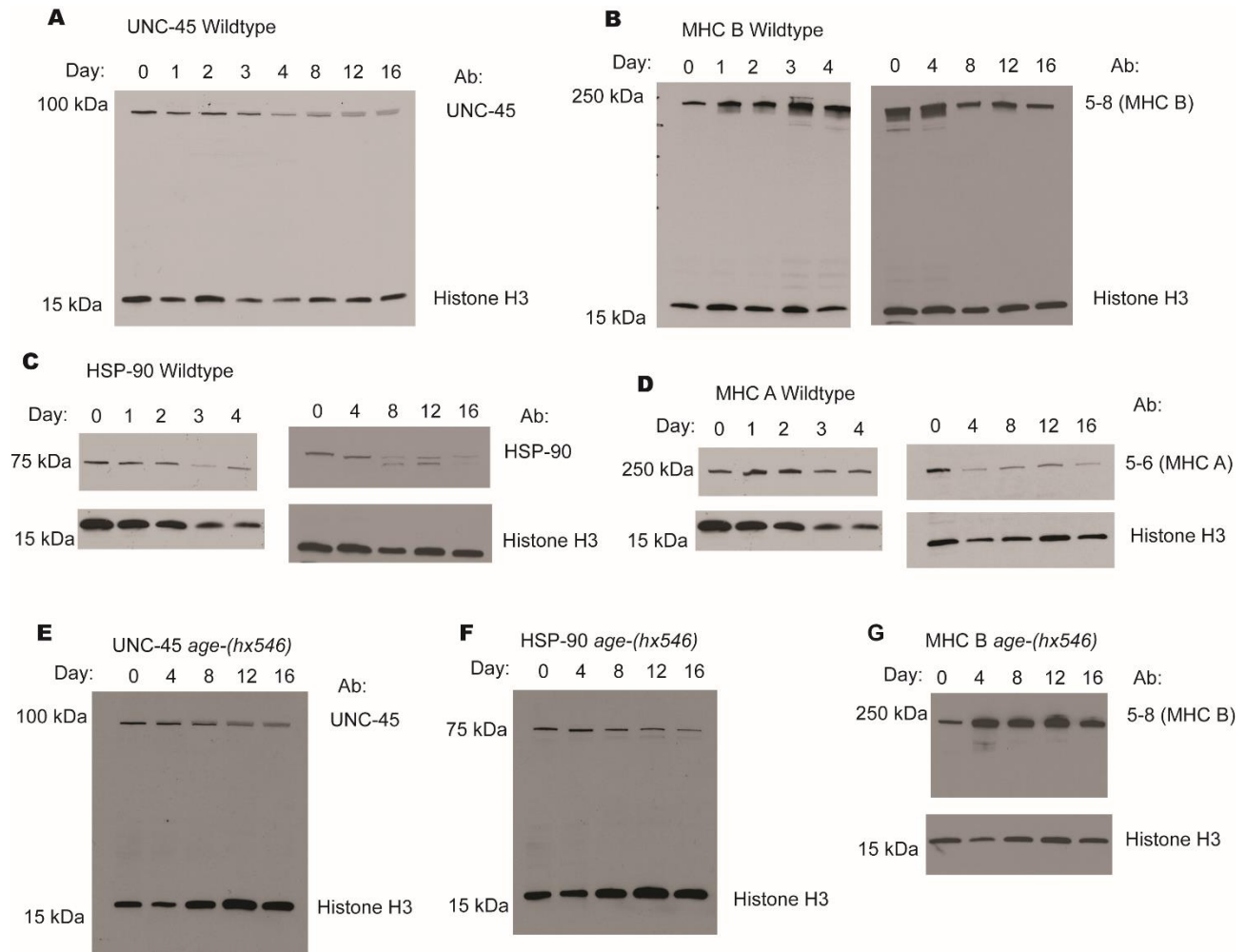


Figure S5. Representative Western Blot images from wildtype and *age-1(hx546)*. A-D) depict representative images of UNC-45 (A), MHC B (B), HSP-90 (C), and MHC A (D) Western Blots from wildtype worms at different ages. E-G) depict representative images of UNC-45 (E), HSP-90 (F), and MHC B (G) from *age-1(hx546)* worms at different ages. The load control Histone H3 is also shown for each blot. When blots are shown as two images instead of one, it is because a different exposure time was needed for the two different proteins on the blot.

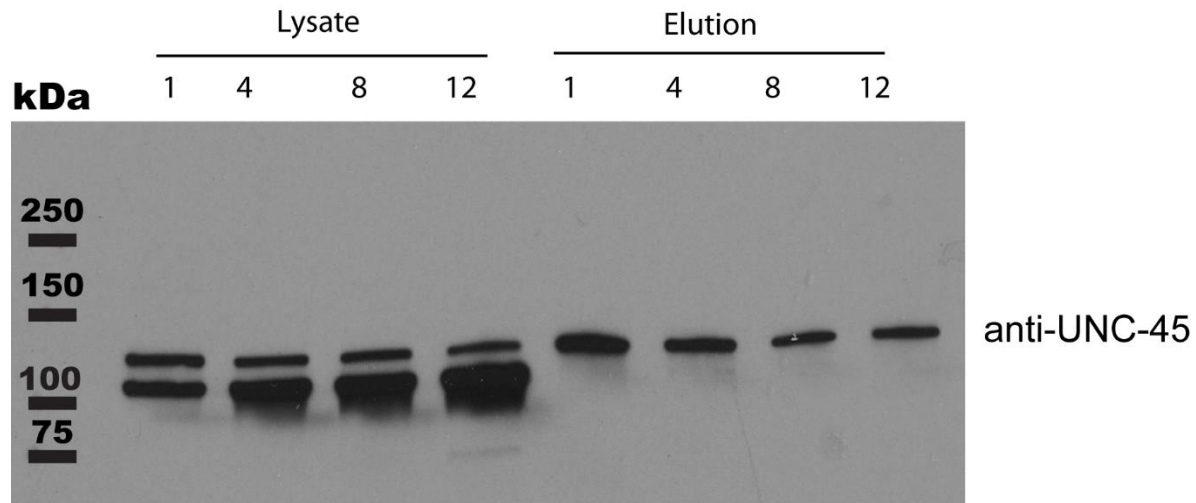


Figure S6. mNeonGreen Immunoprecipitation. Part of the protein lysate (~1%) of each sample used for the immunoprecipitation (right side of blot) and part of the total elution (~12.5%) from each immunoprecipitation (left side of blot) were run on a 4-20% SDS-PAGE gel, transferred to nitrocellulose, and reacted with the UNC-45 antibody to ensure that UNC-45::mNeonGreen was pulled down with the pre-conjugated mNeonGreen nanobodies magnetic beads.

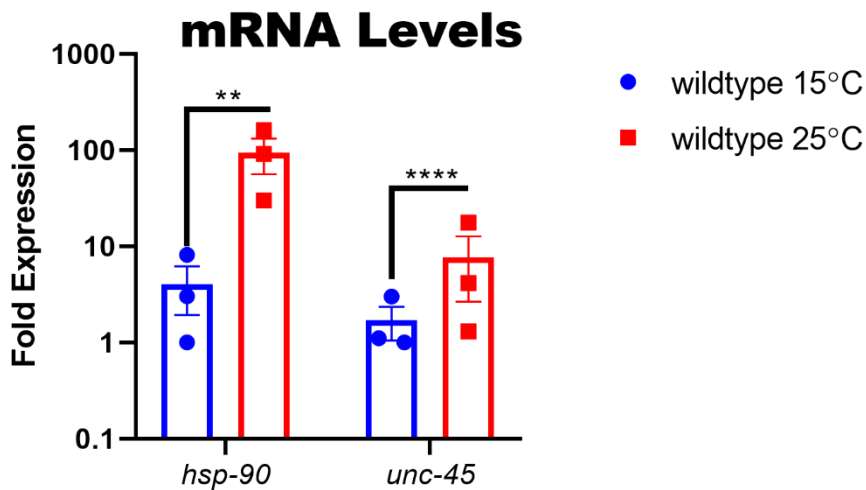


Figure S7. Steady state transcript expression of *hsp-90* and *unc-45* in Wildtype worms grown at 15°C and 25°C.