



Figure S4: Gene Expression Variability between Populations during Aging. Related to Figure 5.

(A) Gene expression variability calculated as CV (σ/μ). Top row: histogram of CV differences between Day 5 and Day 0 for N2 (blue) and *mir-71(n4115)* (red). Far right: composite. Bottom row: histogram of CV differences between *mir-71(n4115)* and N2 for Day 0 (green) and Day 5 (purple). Far right: composite. Y-axis is shown as density rather than counts.

(B) Plot of mean vs. variance for each experimental condition. Power law-like relationship exists between mean gene expression and variance. Red line is the linear regression.

(C) Plot of mean vs. variance for each experimental condition, based on 5 biological replicate RNA-seq data.

(D) Histogram of noise difference between Day 5 vs. Day 0 (Day 5- Day 0) in N2 (blue) vs. *mir-71(n4115)* (red) for 5 biological replicate samples (three from main text + two additional). Y-axis is shown as density rather than counts. Noise was calculated as $(\sigma)/(\mu^{1.66964})$. Slightly more genes displayed positive noise difference for N2 (+3.5%, binomial test, $P=0.008767$); more genes displayed negative noise difference for *mir-71(n4115)* (+38%, binomial test, $P<2.2\times 10^{-16}$).

(C) Histogram of noise difference between *mir-71(n4115)* and N2 wildtype (*mir-71(n4115)* - N2) at Day 0 (green) vs. Day 5 (purple). Noise was calculated as in (A). More genes demonstrated positive noise difference between N2 and *mir-71(n4115)* at Day 0 (+7.6%, binomial test, $P=1.834\times 10^{-7}$); more genes demonstrated negative noise difference at Day 5 (+50.3%, binomial test, $P<2.2\times 10^{-16}$).