SUPPLEMENTAL MATERIAL

Disatnik et al., http://dx.doi.org/10.1084/jem.20160776

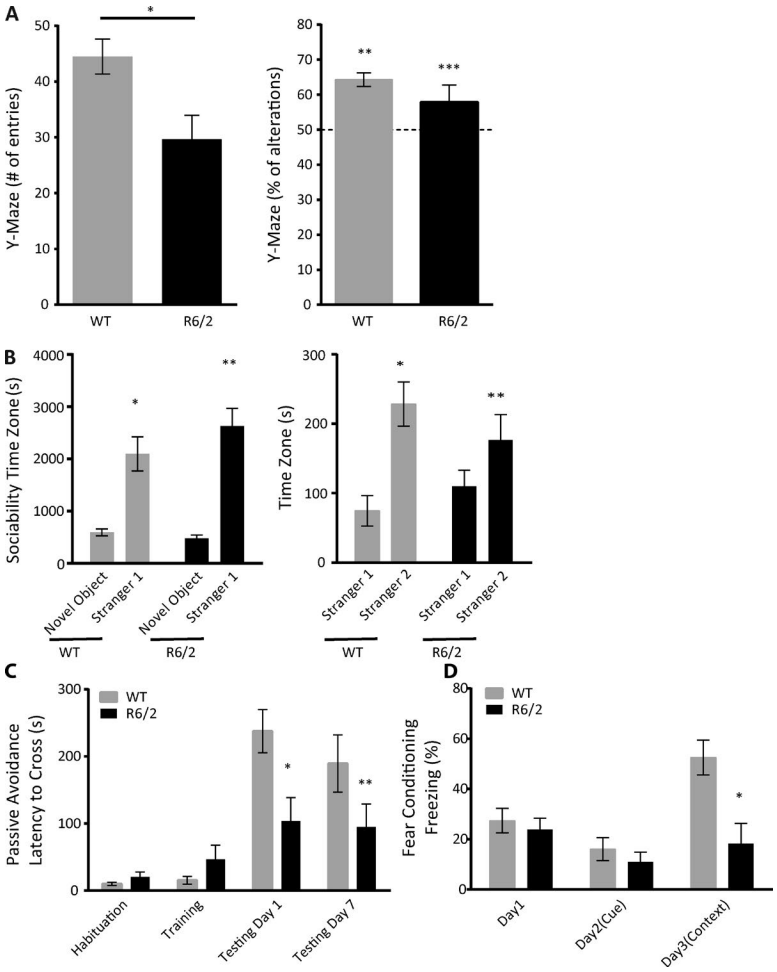

Figure S1. **Behavioral analysis of R6/2 mice at 11 wk of age.** (A) R6/2 mice have lower number of entries in the arms during the y-maze spontaneous alternation test when compared with the WT mice. Their percentage of alternation is not statistically >50% chance level, whereas the WT mice have significantly higher alternation when compared with chance level. n = 10 WT and n = 9 R6/2. *, P = 0.016 versus WT; **, P = 0.0001 vs. WT; ***, P = 0.1443 versus R6/2. (B) During the sociability phase of the PhenoLab, both the WT and R6/2 mice spent a significant amount of time in the zone with stranger 1 mouse when compared with the zone with a novel object, indicating normal social behavior in both groups of mice (n = 10 WT and n = 9 R6/2. *, P = 0.0014 WT novel object vs. WT stranger 1; paired Student's t test. **, P = 0.0001 R6/2 novel object vs. R6/2 stranger 1; paired Student's t test). However, the R6/2 mice did not spend significantly more time in the stranger 2 zone as compared with the stranger 1 zone, indicating their lack of social discrimination to a novel stranger 2 mouse. WT mice spent significantly more time in the stranger 2 zone as compared with the stranger 1 zone. *, P = 0.0117 WT stranger 1 versus WT stranger 2; nonparametric paired Student's t test. **, P = 0.01852 R6/2 stranger 1 versus R6/2 stranger 2; paired Student's t test. (C) Both WT and R6/2 mice have comparable latency to enter the dark chamber during habituation and training day. WT mice have significantly longer latency to enter the dark chamber on day 1 after training when compared with the R6/2 mice (*, P = 0.0162 WT vs. R6/2; Mann-Whitney test). The difference in latency to enter the dark chamber was less prominent at day 7 after training. n = 10 WT and n = 9 R6/2. **, P = 0.0995 WT versus R6/2; unpaired Student's t test. (D) The WT and R6/2 mice have similar percentage of freezing during day 1 training and day 2 cued testing. The percent freezing for the WT was significantly higher during day 3 contextual testing when compared with that of the R6/2 mice. n = 9 WT and n = 6 R6/2. *, P = 0.007 WT versus R6/2; unpaired Student's t test. Error bars represent mean ± SEM.

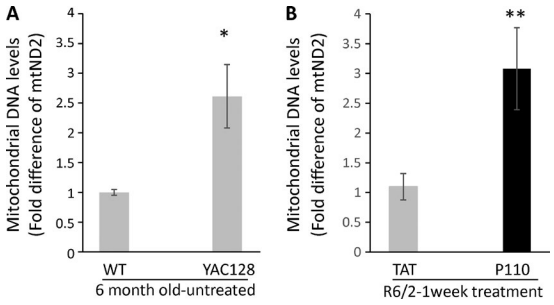

Figure S2. **mtDNA levels in plasma of YAC128 mice.** (A) Analysis of mtDNA levels (mt*ND2*) in plasma of 6-mo-old untreated WT and untreated YAC128 mice. *n* = 9 WT and *n* = 9 YAC128. *, P = 0.0115 WT versus YAC128. (B) Beneficial effect of 1-wk P110 treatment of 13-wk-old R6/2 mice. Circulating mt*ND2* levels were measured in plasma of R6/2 mice treated with P110 for 1 wk at 8 wk old before collection of the samples. The levels of mt*ND2* increased in P110-treated plasma compared with untreated. *n* = 5 R6/2 TAT and *n* = 3 P110 R6/2. The results are presented as mean ± SEM of $2^{-\Delta\Delta CC}{}_{T}$. **, P = 0.0146 TAT versus P110.

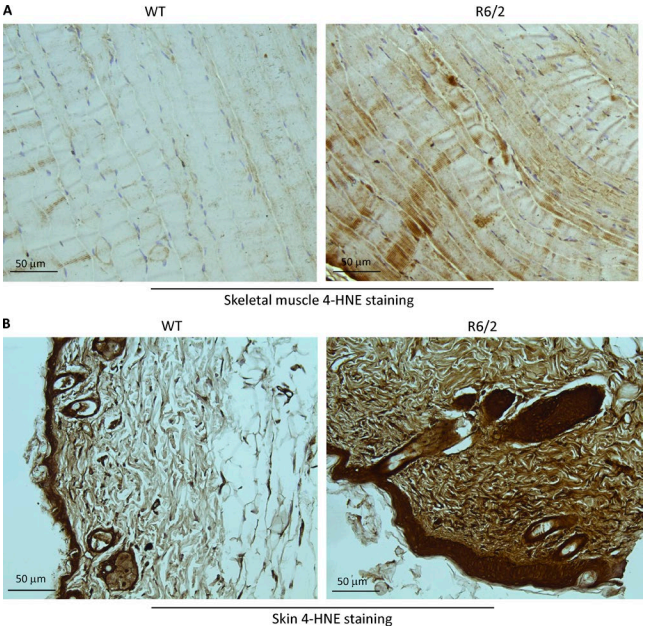

Figure S3. **4-HNE staining of skeletal muscle and skin sections of 13-wk-old mice.** (A and B) Protein adducts stained with 4-HNE were found predominantly in muscle sections (A) and in skin sections (B) of R6/2 mice relative to WT mice. A representative result of three sections of three mice/group is shown. Quantification of the respective staining is provided in Table 1.

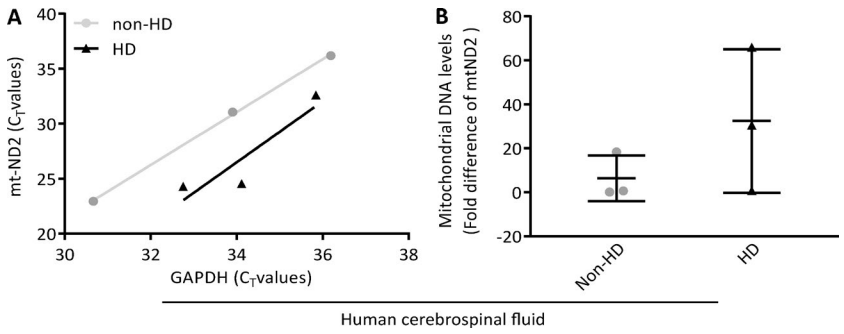

Figure S4. **mt*ND2* levels in human HD CSF.** (A and B) mt*ND2* was determined in three CSF human samples from non-HD patients (control) or from HD patients. (A) The scatter plot illustrates the C_T values of nuclear DNA *GAPDH* (x axis) against C_T values of mtDNA mt*ND2* (y axis) in human CSF of non-HD and HD patients CSF. R-square value = 0.9991 and 0.8277 for non-HD (control) and HD subjects, respectively. *n* = 3/group. (B) mt*ND2* levels (calculated as $2^{-\Delta\Delta C_T}$) are shown in non-HD CSF and HD patients. The differences between the two groups were not significant because of the small number of samples. *n* = 3/group.