

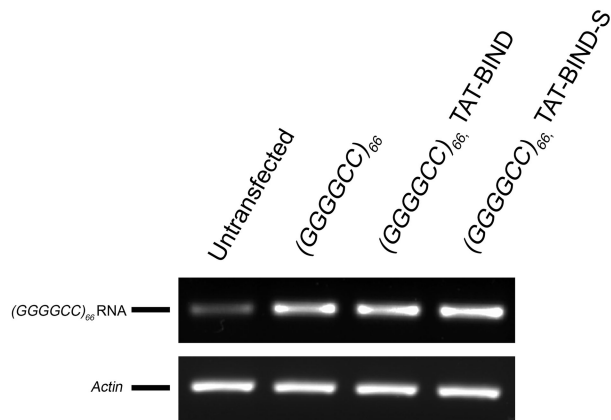
OMTN, Volume 16

Supplemental Information

A Peptidyl Inhibitor for Neutralizing μ (GGGGCC)_{exp}-Associated Neurodegeneration in C9ALS-FTD

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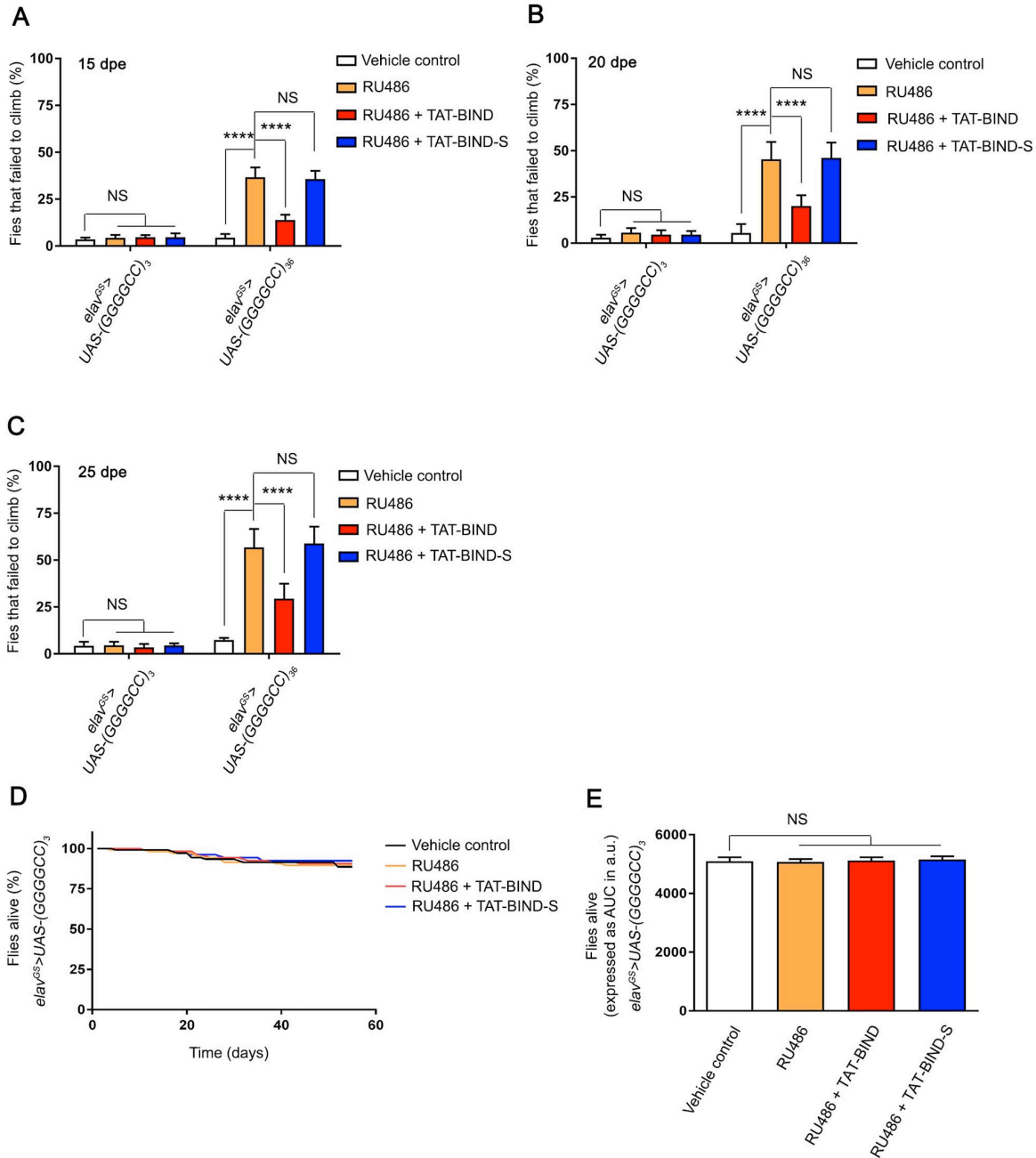
Supplemental Information



Supplementary Figure 1

Supplementary Figure 1. TAT-BIND didn't alter $GGGGCC$ RNA expression level in $pAg3-(GGGGCC)_{66}$ -expressing cells.

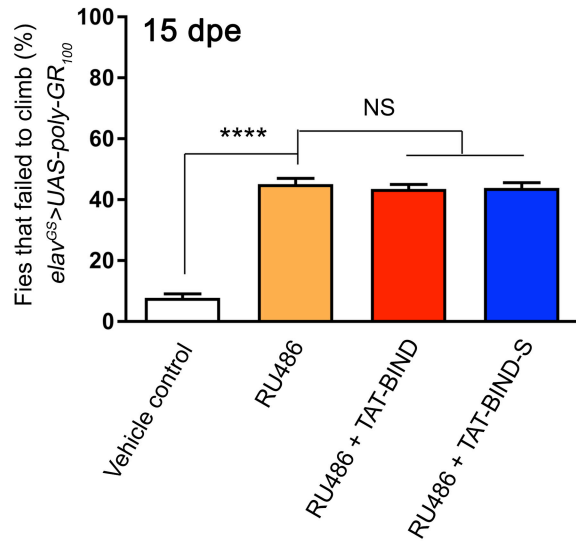
One microgram of $pAg3-(GGGGCC)_{66}$ plasmid were used to transfect SK-N-MC cells followed by application of respective TAT peptides (10 μ M). Total RNA was extracted followed by reverse transcription. Conventional PCR was performed to determine the expression of $GGGGCC$ -containing RNA. Actin was used as loading control. Experiment was repeated thrice with only representative gel photo shown.



Supplementary Figure S2

Supplementary Figure 2. TAT-BIND inhibited eye degeneration of *UAS-(GGGGCC)₃₆* flies without affecting lifespan of *UAS-(GGGGCC)₃* flies.

(A-C) TAT-BIND treatment rescued the climbing defect of *UAS-(GGGGCC)₃₆* flies at 15, 20, 25 dpe. (D) TAT-BIND treatment did not alter the lifespan of *UAS-(GGGGCC)₃* flies. (E) Area under curve (AUC) analysis of (D). For the climbing ability and lifespan assays, flies at 2 dpe were fed with food containing different drug combinations, including vehicle control (ethanol), mifepristone (RU486, 200 μ M), RU486 (200 μ M) plus TAT-BIND (50 μ M), and RU486 (200 μ M) plus TAT-BIND-S (50 μ M). Transgene expression was induced with mifepristone (RU486, 200 μ M). The climbing ability assay was repeated six times, and at least 90 flies per treatment were scored. The lifespan assay was repeated at least six times, and more than 100 flies per treatment were recorded. Genotypes used in (A-E) were: *w; UAS-(GGGGCC)₃/+*; *elav^{GS}-GAL4/+* and *w; UAS-(GGGGCC)₃₆/+*; *elav^{GS}-GAL4/+*. Data were expressed as mean \pm S.E.M. **** indicates $P < 0.0001$. NS indicates no significance. a.u. indicates arbitrary units.



Supplementary Figure S3

Supplementary Figure 3. TAT-BIND treatment did not rescue the climbing defect of *UAS-poly-GR₁₀₀* flies at 10 dpe.

For the climbing ability, flies at 2 dpe were fed with food containing different drug combinations, including vehicle control (ethanol), mifepristone (RU486, 200 μ M), RU486 (200 μ M) plus TAT-BIND (50 μ M), and RU486 (200 μ M) plus TAT-BIND-S (50 μ M). Transgene expression was induced with mifepristone (RU486, 200 μ M). The climbing ability assay was repeated six times, and at least 90 flies per treatment were scored. Genotype was: *w; UAS-poly-GR₁₀₀/+; elav^{GS}-GAL4/+*. Data were expressed as mean \pm S.E.M. **** indicates $P < 0.0001$. NS indicates no significance.