

Supplemental Figures

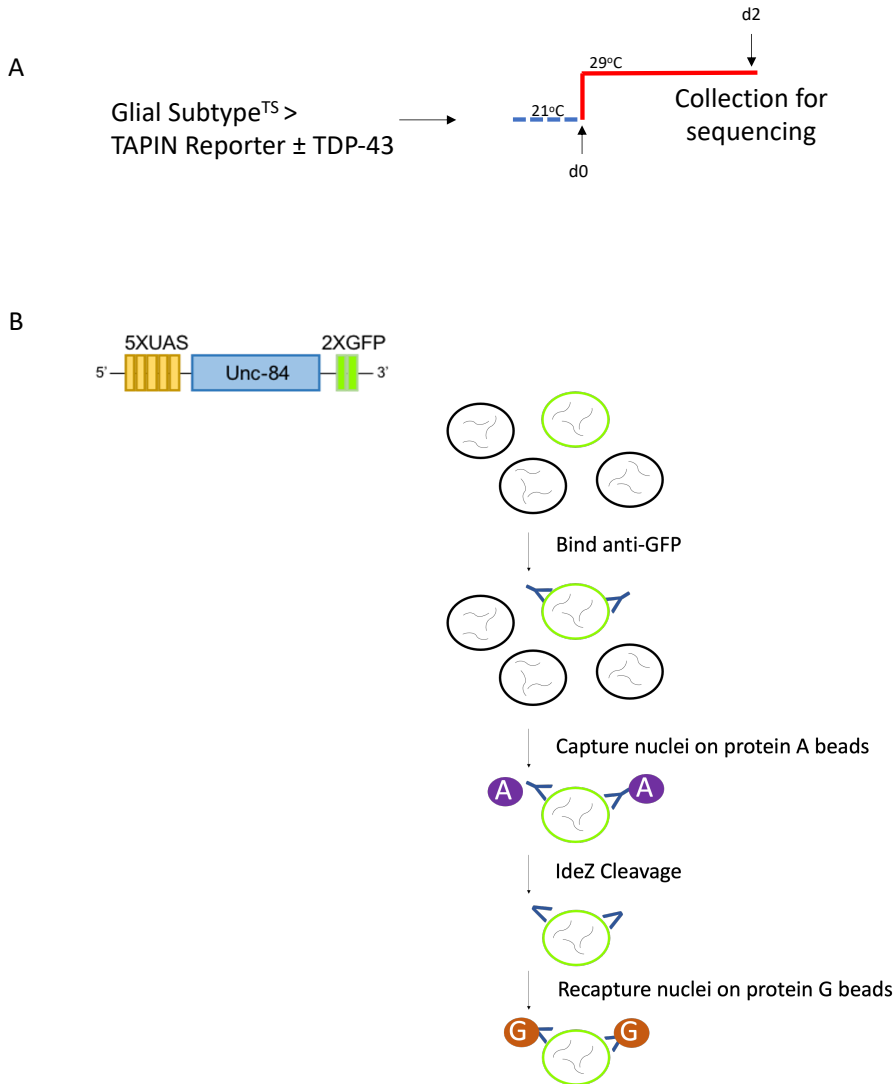


Figure S1. Nuclear RNA-seq Schematic. Flies expressing UAS-TDP-43 and the INTACT reporter (5XUAS-unc84-2XGFP) under control of a temperatures sensitive Gal80 plus a glial cell-type-specific Gal4 (methods) were (A) reared at 21°C and shifted to 29°C upon eclosion (day 0). Heads were collected for sequencing on day 2 and stored at -80°C until use. (B) schematic of the INTACT nuclear tag used to purify nuclei and schematic of the tandem affinity purification process.

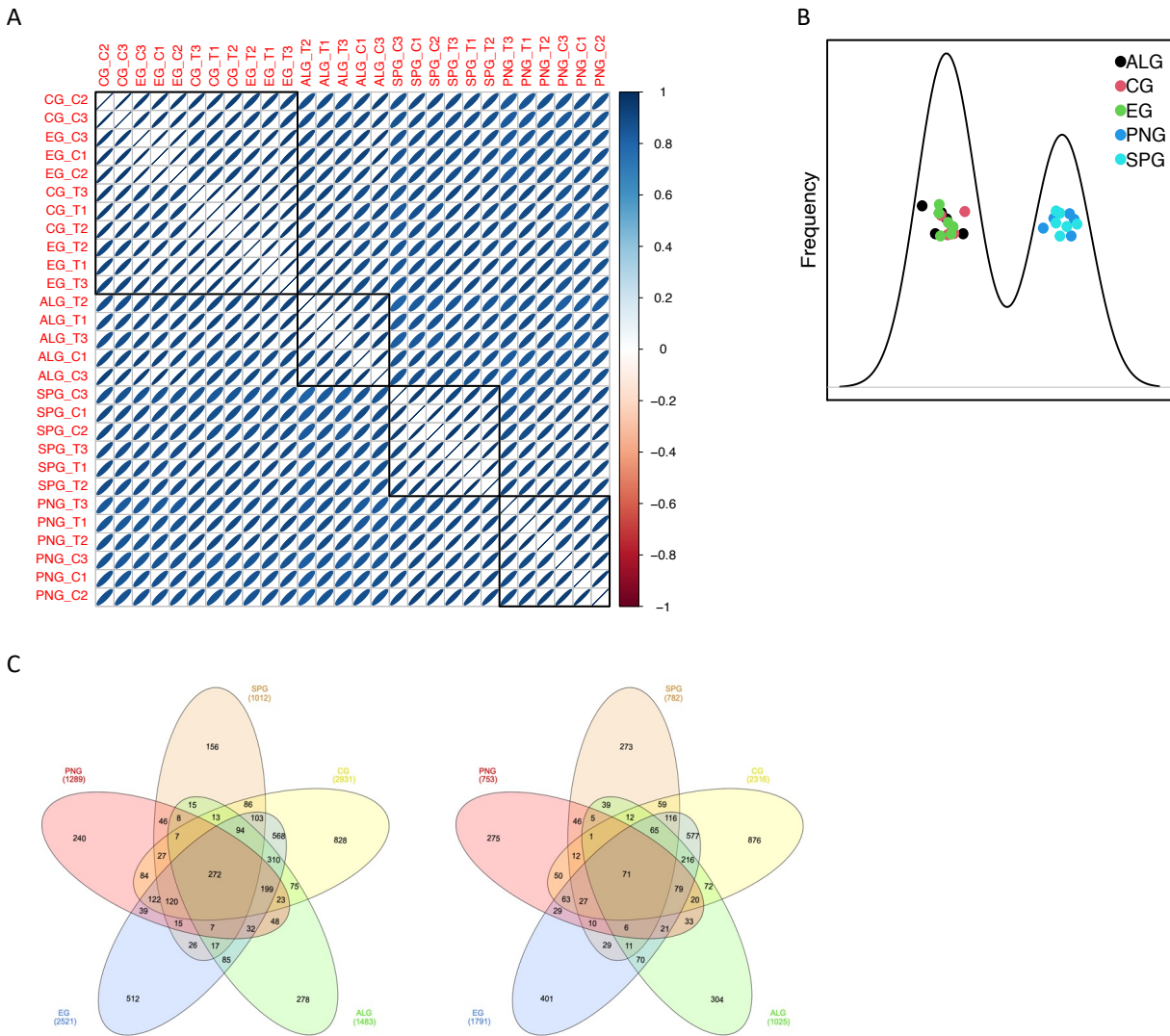


Figure S2. Gene expression profiles; overlap, PCA, and correlation plots. Gene expression profiles generated from (A) Pearson correlation analysis demonstrating EG and CG more closely resemble each other at baseline than they do their own cell type with TDP-43 expression (B) principle component analysis plot demonstrating PNG and SPG separate from other glial cell types. (C) upregulated and downregulated genes (p<.05) in a given glial cell type and their overlap with other glial cell types.

Glial Subtype	Cells/ Brain¹	Cells/ Group (n=6)	Flies/ Group (n=6)
PNG	2246	>1,000,000	>445
SPG	300	>300,000	>1,000
CG	2635	>1,000,000	>380
ALG	4618	>1,000,000	>217
EG	3722	>1,000,000	>267

Table S1. Numbers of fly heads used for TAPIN purification and sequencing based on number of glial cells of each type per brain.¹Kremer et al., 2017

Table S2. Statistically significant differentially expressed features.
(see excel sheet)

Table S3. Statistically significant differentially expressed TEs
(see excel sheet)

Table S4. DNA damage and repair pathways.
(see excel sheet)

Table S5. Chromatin organization pathway
(see excel sheet)

Table S6. nucleocytoplasmic transport pathway
(see excel sheet)

Table S7. inflammatory response pathways
(see excel sheet)

Metric	PNG ^{ls} Control (n=3)	PNG ^{ls} + TDP-43 (n=3)	SPG ^{ls} Control (n=3)	SPG ^{ls} + TDP-43 (n=3)	CG ^{ls} Control (n=2)	CG ^{ls} + TDP-43 (n=3)	ALG ^{ls} Control (n=2)	ALG ^{ls} + TDP-43 (n=3)	EG ^{ls} Control (n=3)	EG ^{ls} + TDP-43 (n=3)
SF2 expression (MRN)	899	363	1090	594	780	727	591	453	780	669
Log2 fold change	-1.31		-0.85		n/a		n/a		n/a	
p	<0.0001		<0.001		n/a		n/a		n/a	

Table S8. SF2 expression across glial cell types. SF2 expression was significantly reduced at day 2 post induction of TDP-43 in SPG and PNG day 2.