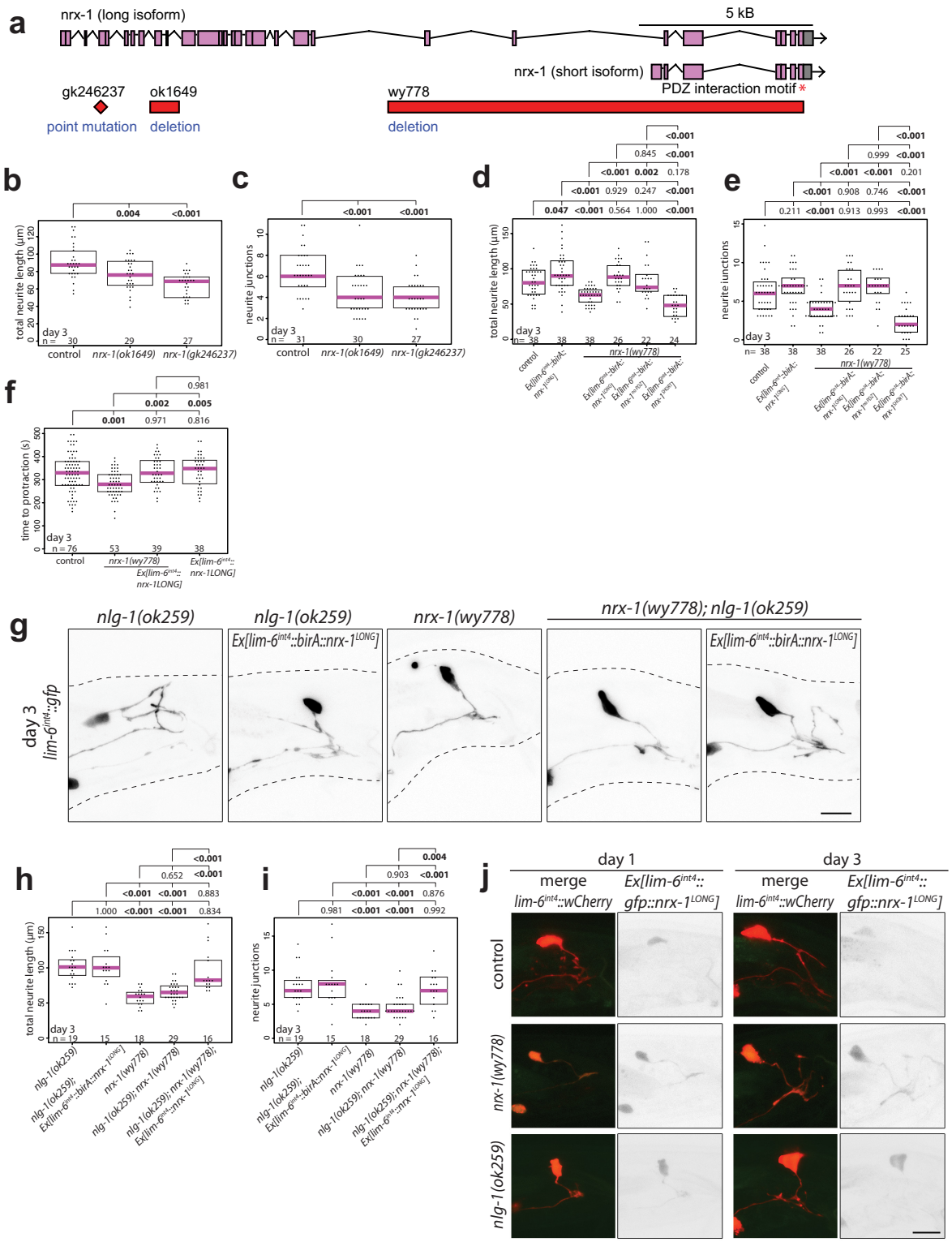

Extended Data Figure 9 | NRX-1 long isoform functions in DVB to control DVB neurite outgrowth and NRX-1 expression in DVB controls neurite outgrowth of *nlg-1* mutants. a, Genetic loci of *nrx-1* showing long and short isoforms, PDZ binding motif, and locations of point mutation *gk246237* and deletions *ok1649* and *wy778*. **b**, **c**, Quantification of total neurite length (**b**) and number of neurite junctions (**c**) in controls and long-isoform-specific mutants *nrx-1(ok1649)* and *nrx-1(gk246237)* at day 3. **d**, **e**, Quantification of total neurite outgrowth (**d**) and number of neurite junctions (**e**) at day 3 in control, Ex[*lim-6*^{int4}*::birA::nrx-1*^{LONG}], *nrx-1(wy778)*, *nrx-1(wy778)*;Ex[*lim-6*^{int4}*::birA::nrx-1*^{LONG}], *nrx-1(wy778)*;Ex[*lim-6*^{int4}*::birA::nrx-1*^{SHORT}], and *nrx-1(wy778)*; Ex[*lim-6*^{int4}*::birA::nrx-1*^{noPDZ}] worms. **f**, Time to spicule protraction at day 3 in control, *nrx-1(wy778)*, *nrx-1(wy778)*;Ex[*lim-6*^{int4}*::birA::nrx-1*^{LONG}], and Ex[*lim-6*^{int4}*::birA::nrx-1*^{LONG}] worms. **g**–**i**, Confocal images of *lim-6*^{int4}*::wCherry* expression (**g**) and quantification of total neurite length (**h**) and number of neurite junctions (**i**) of day 3 *nlg-1(ok259)*, *nlg-1(ok259)*;Ex[*lim-6*^{int4}*::birA::nrx-1*^{LONG}], *nrx-1(wy778)*, *nrx-1(wy778)*;*nlg-1(ok259)*, and *nrx-1(wy778)*;*nlg-1(ok259)*;Ex[*lim-6*^{int4}*::birA::nrx-1*^{LONG}] males. **j**, Confocal images of *lim-6*^{int4}*::wCherry* and Ex[*lim-6*^{int4}*::gfp::nrx-1*^{LONG}] in control, *nrx-1(wy778)*, and *nlg-1(ok259)* males at day 1 and 3. Dot represents one worm; magenta bar, median; boxes, quartiles; one-way ANOVA and post-hoc Tukey HSD, *P* values shown above plots, bold shows significance ($P < 0.05$) scale bars, 10 µm.