

**Figure 5 – figure supplement 1: Potential synaptic targets of the PDF neurons in the central brain using the CD19::Sdc ligand.**

(a1-4) Negative control, with no ligand expression. (b1-4 and b1’-4’ [two different animals]) GFP+ neurons induced by expression of the CD19::Sdc ligand driven by the *pdf*-LexA driver. The receptor in both cases is the nSybE-nlgSNTG4. a1: control brain with no nSyb::CD19 expression. b1 and b1’: nSyb::CD19 driven by *pdf*-LexA strongly accumulated (red) in the cell bodies (arrows) and had a weak signal in the axon terminals of s-LNv dorsal axons (arrowheads). a2: no GFP induction was observed in the control brains without *pdf*>nSyb::CD19 ligand. b2 and b2’: Induction of GFP expression in *pdf*>nSyb::CD19 brain in the vicinity of the trajectory of nSyb::CD19+ axons through the central brain. b1-4 and b1’-b4’ are images from 2 different animals. In b2 there was GFP induction in DN3 (but not DN2), and in b2’ there was induction in DN2 (but not in DN3). White Arrows point to GFP+ DN2 (b) and GFP+DN3 (b’) neurons whereas yellow arrows indicate the commissural axons of l-LNvs. a3, b3, and b3’: Immunostaining with anti-PER antibody identifies DN1, DN2, and DN3 neurons. a4, b4 and b4’:Merged images of PER (magenta), GFP (green) and CD19::Sdc (red). Stippled insets in b and b’ show the GFP+ DN2 or DN3 neurons in high magnification (60X). Scale bar= 50μm..