

**Figure S11** Bursicon neuron peripheral axon projections and synaptic terminals were visualized by anti-BURS immunostaining or genetic labeling with the membrane-localized fusion protein, mCD8::GFP. (A-C) Peripheral axons in the abdominal nerves of a *ccap>shep-RNAi*, *Dicer-2*, *mCD8::GFP* P14 stage pharate adult. Although the anti-BURS immunostaining (magenta) is more restricted to boutons than the mCD8::GFP labeling (green), each axon in the nerve can be clearly resolved at lower magnification (panels A-C), which captures most of the peripheral axon arbor, and at higher magnification (insets; region of the abdominal nerve trunk indicated by the white boxes in panels A-C). Within the abdominal nerve trunk, there is much less bursicon accumulation than in the distal boutons, but anti-BURS immunostaining still permits the visualization of each axon. Arrows, boutons; arrowheads, axons. Scale bars: A-C, 100 µm; insets, 5 µm. (D-F) Labeling of the bursicon neuron terminals on muscles 12-13 of the 2nd abdominal segment with mCD8::GFP (green) and anti-BURS immunostaining (magenta) in *ccap>shep-RNAi*, *Dicer-2*, *mCD8::GFP* wandering 3rd instar larvae. Arrows, boutons. Scale bar: 10 µm.