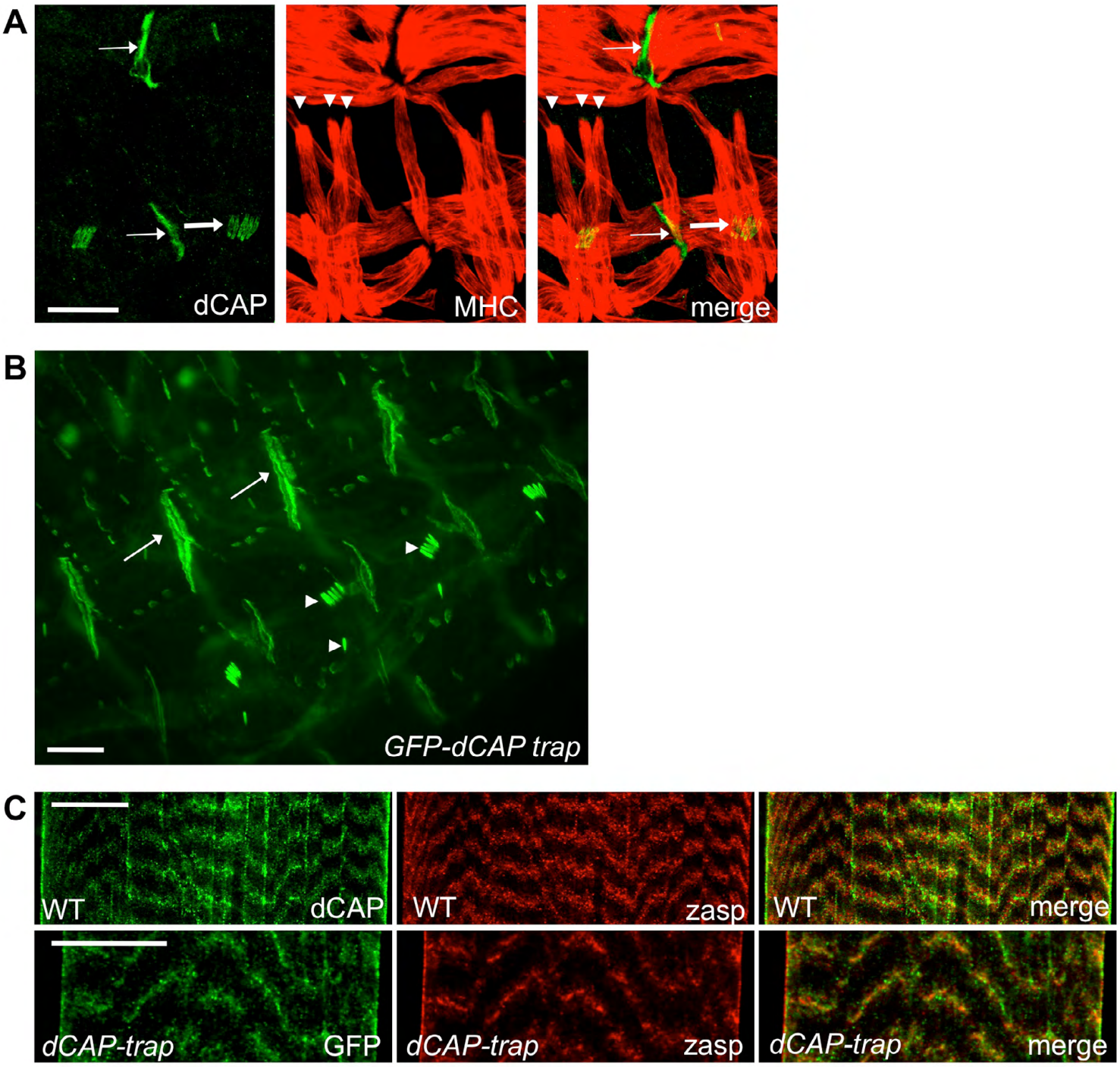

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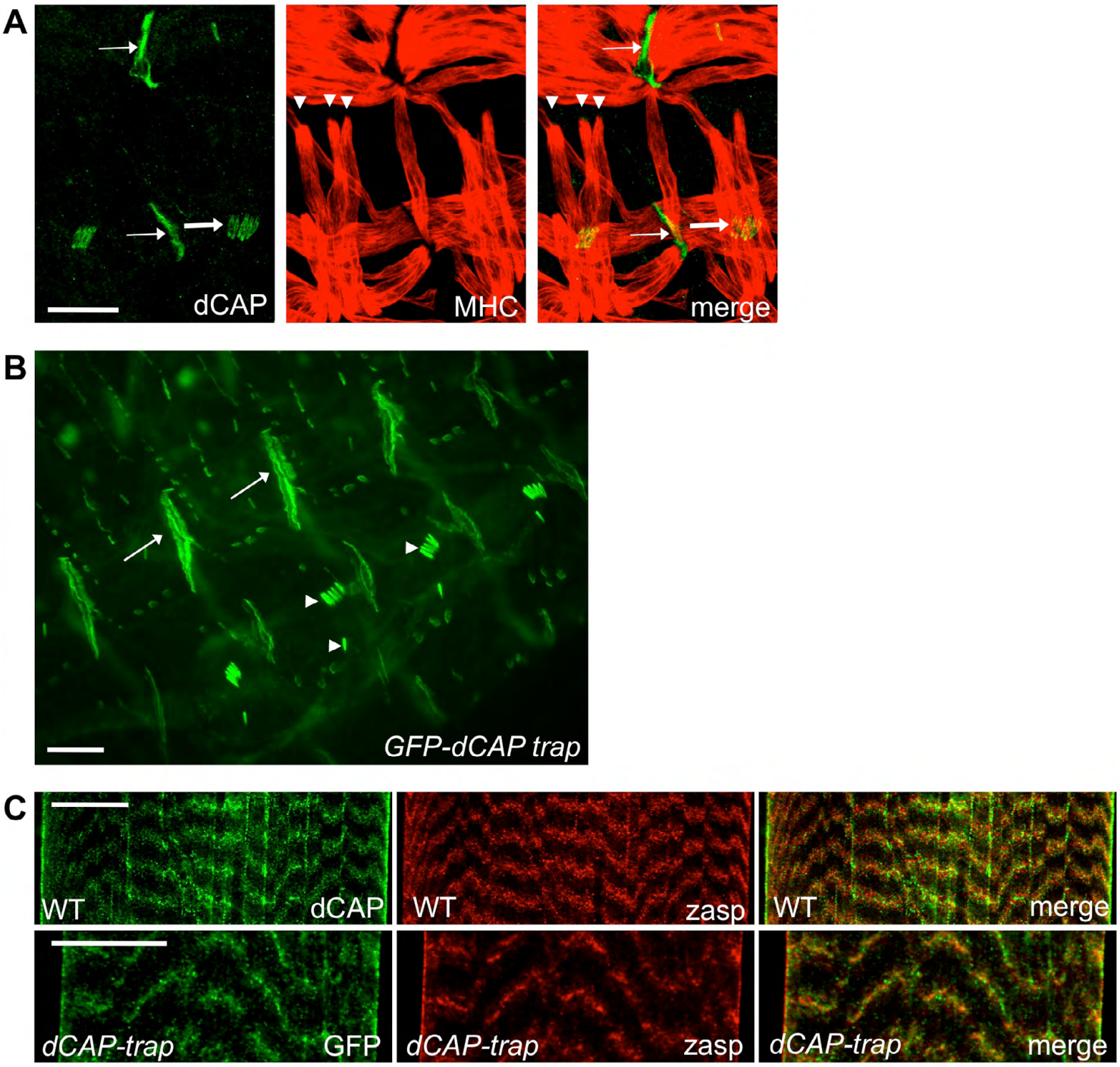

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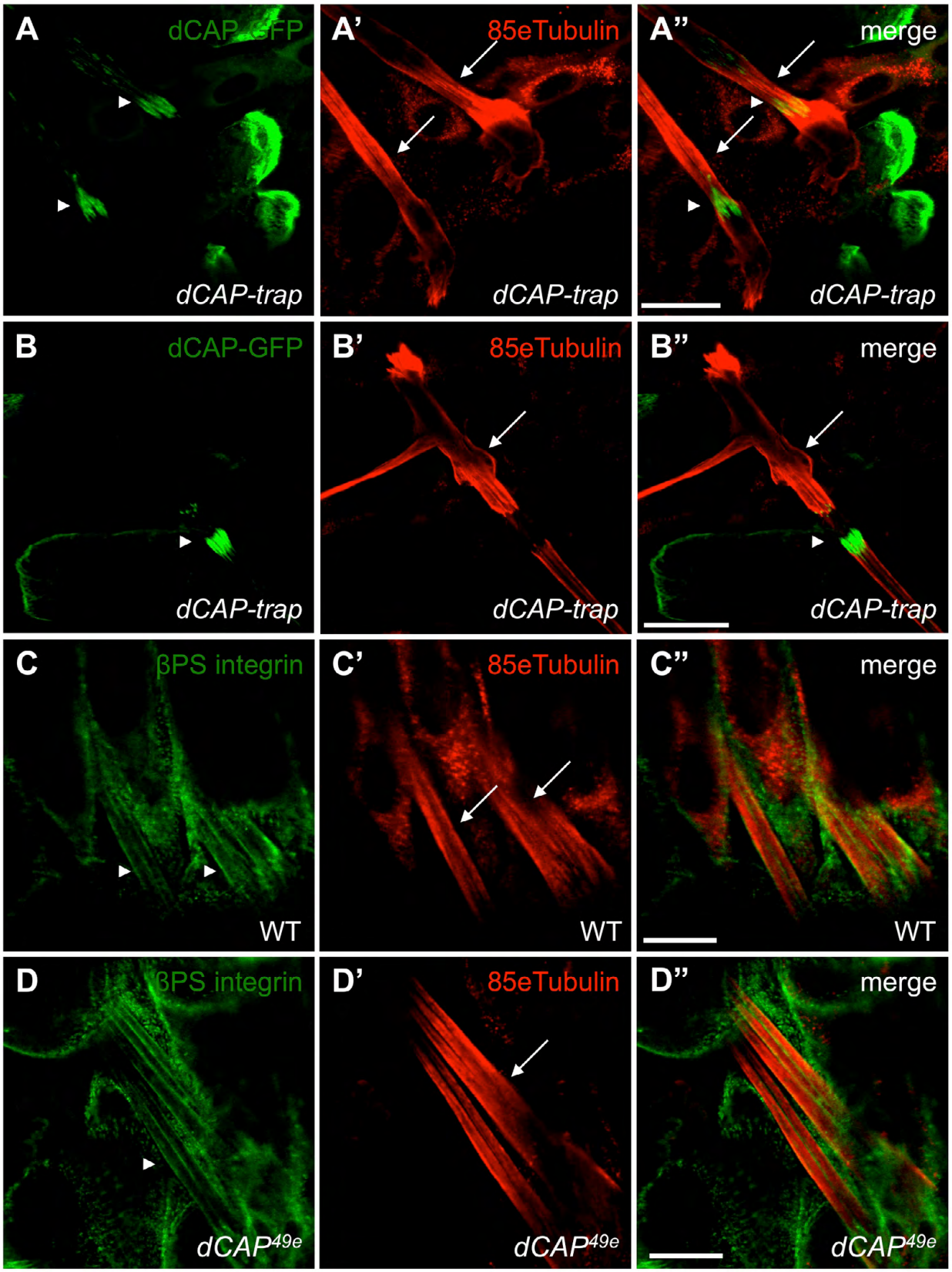


Fig. S2. Cap cells are unaffected in *dCAP^{49e}* mutants. (**A-B″**) Fillet preparations from *GFP-CAP trap* animals were stained with GFP and 85e-tubulin antibodies. 85e-tubulin antibody labels cap, cap attachment cells (arrows in A′ and A″), ligament cells and ligament attachment cells (arrows in B′ and B″). CAP-GFP is enriched at the junction of cap and cap-attachment cells (arrowheads in A) and in scolopale cells (arrowhead in B). (**C-D″**) Wild-type and *dCAP^{49e}* larval fillet preparations were stained with βPS integrin (arrowheads) and 85e-tubulin antibody (arrows). βPS integrin localization in cap cells is unaltered in *CAP* mutants. Scale bars: 40 μm in A-B″; 20 μm in C-D″.

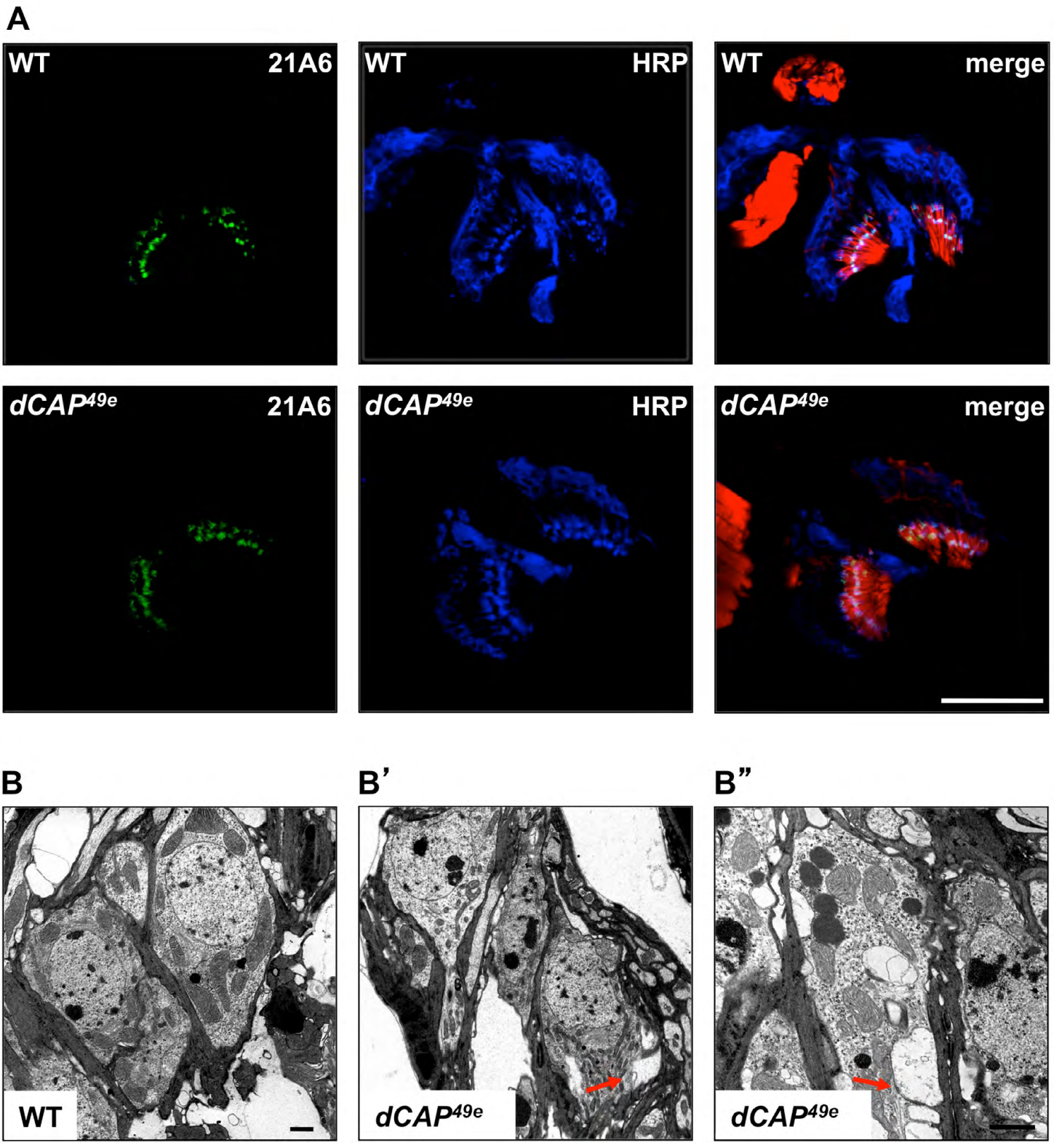


Fig. S3. Morphological analysis of Johnston's organs in *dCAP*^{49e} mutants. (**A**) Sections of Johnston's organ from wild-type and *dCAP*^{49e} adult flies were stained with phalloidin, MAb 21A6 and HRP (which labels neurons). No defects were observed in the 21A6 staining in *CAP* mutants. (**B**) TEM images of wild-type and d*CAP*^{49e} Johnston's organ sections, showing neurons with abnormal vacuolar structure (arrows) in d*CAP49e* mutants. Scale bars: 30 μm in A; 1 μm in B.

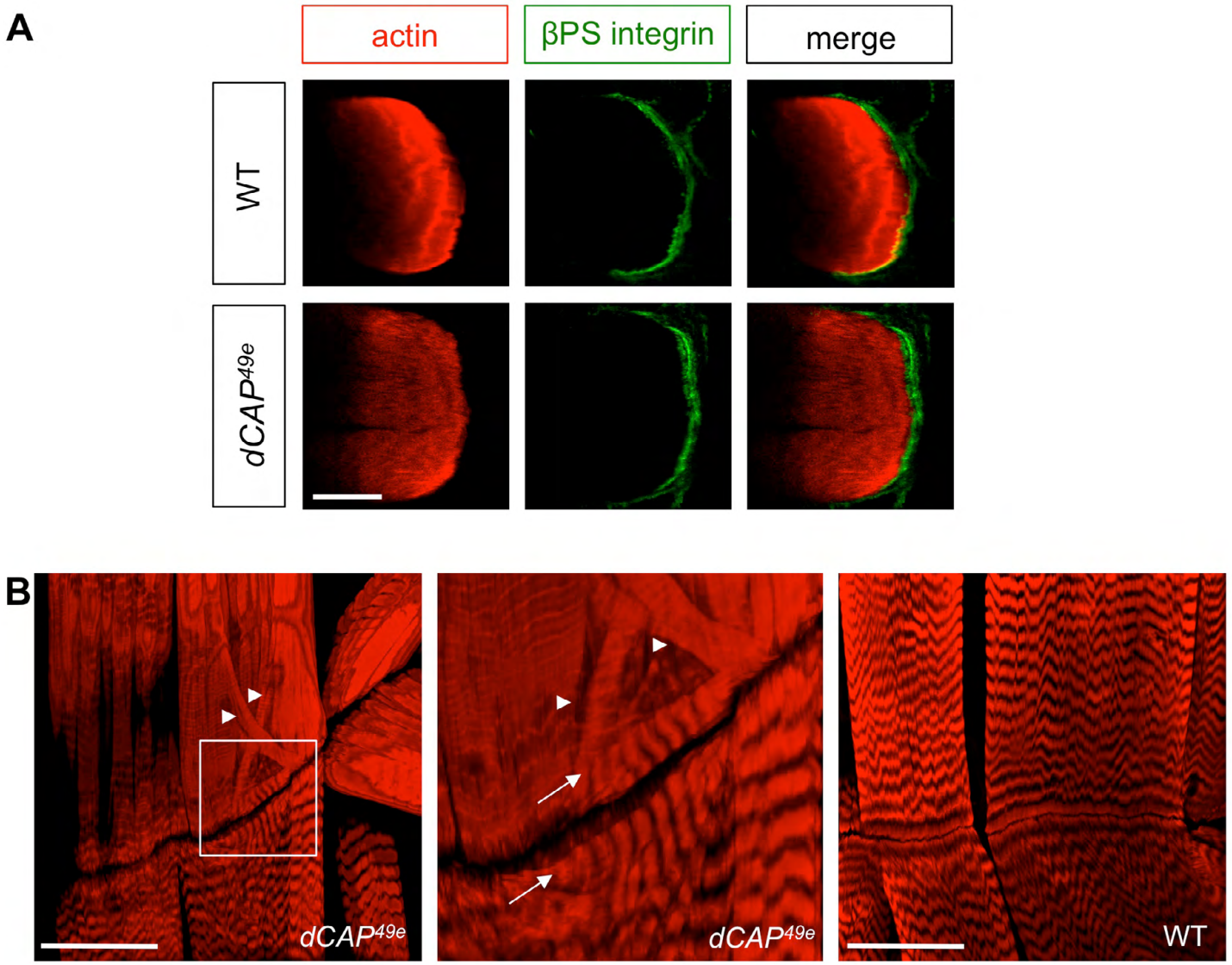


Fig. S4. Morphological analysis of MASs in *dCAP*^{49e} mutants. (**A**) Lateral transverse muscles of wild-type and *dCAP*^{49e} mutant larvae were immunostained with phalloidin and βPS integrin antibody. (**B**) Muscle attachment sites of *dCAP*^{49e} larvae often show an aberrant morphology (arrows), with myofilaments organized in a perpendicular orientation relative to wild-type animals and disorganization of myofilaments near the sarcolemma (arrowheads). Middle panel shows magnified image of inset. Scale bars: 20 μm in A; 60 μm in B.

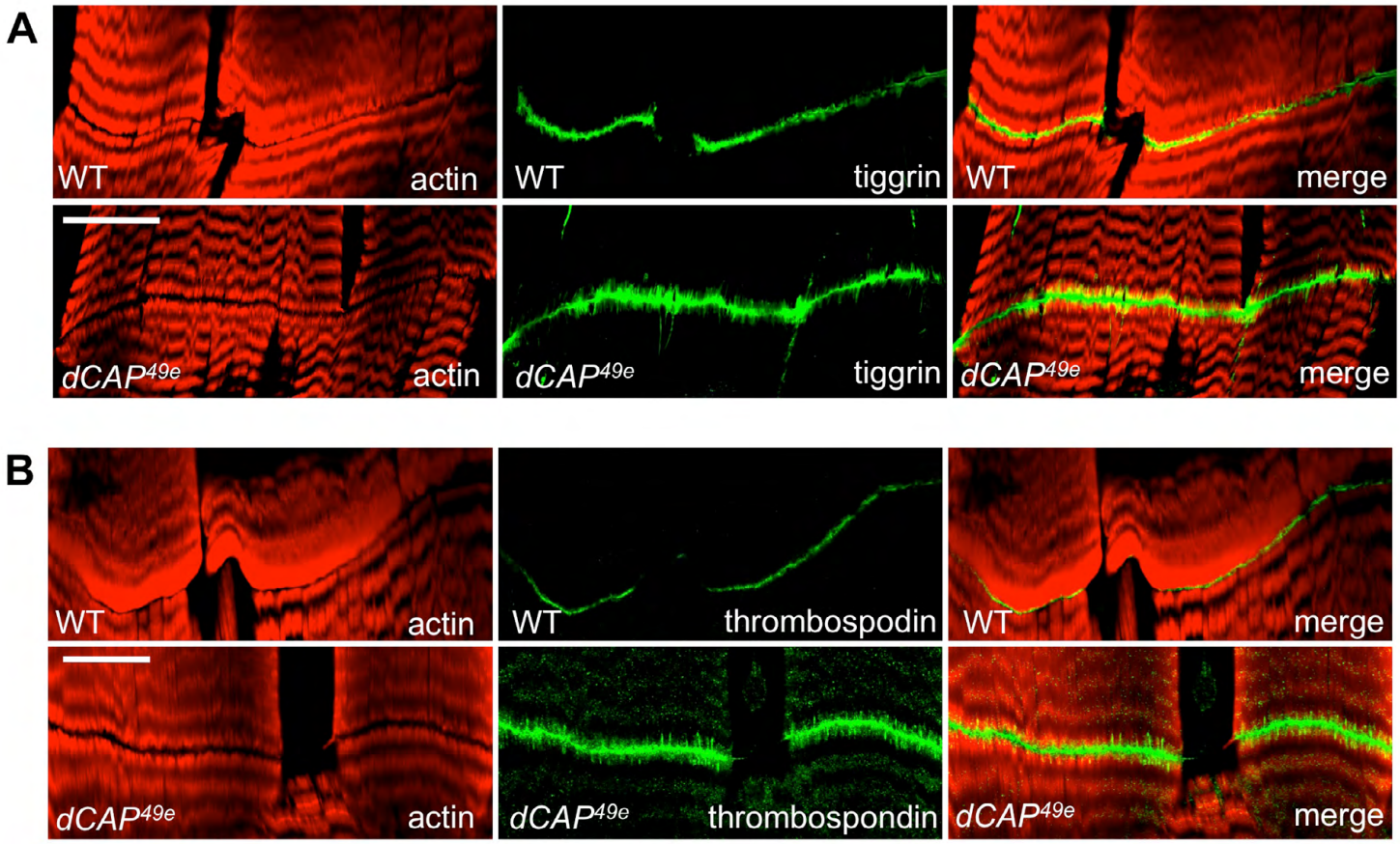
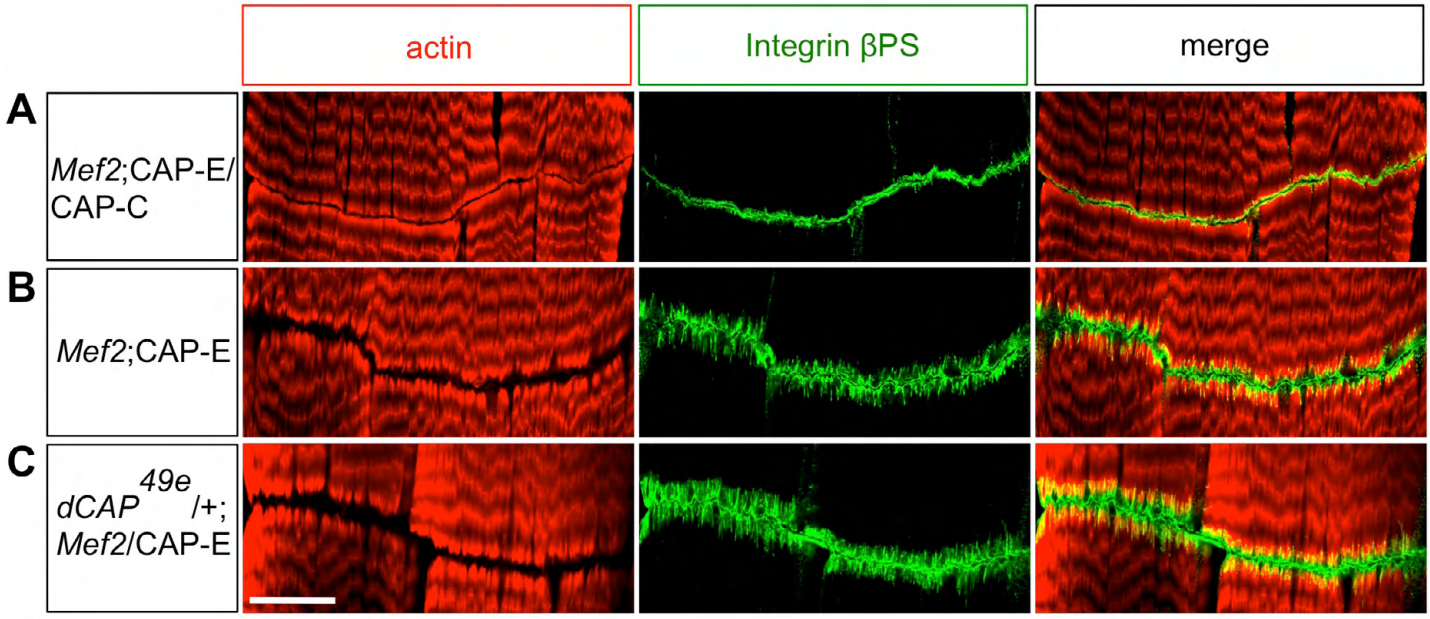


Fig. S5. Tiggrin and Thrombospondin show altered distribution in *dCAP^{49e}* mutants. (**A**) Wild-type and *dCAP^{49e}* larvae were stained with anti-Tiggrin and phalloidin. (**B**) Wild-type and *dCAP^{49e}* larvae were stained with anti-thrombospondin and phalloidin. Scale bars: 30 μm.



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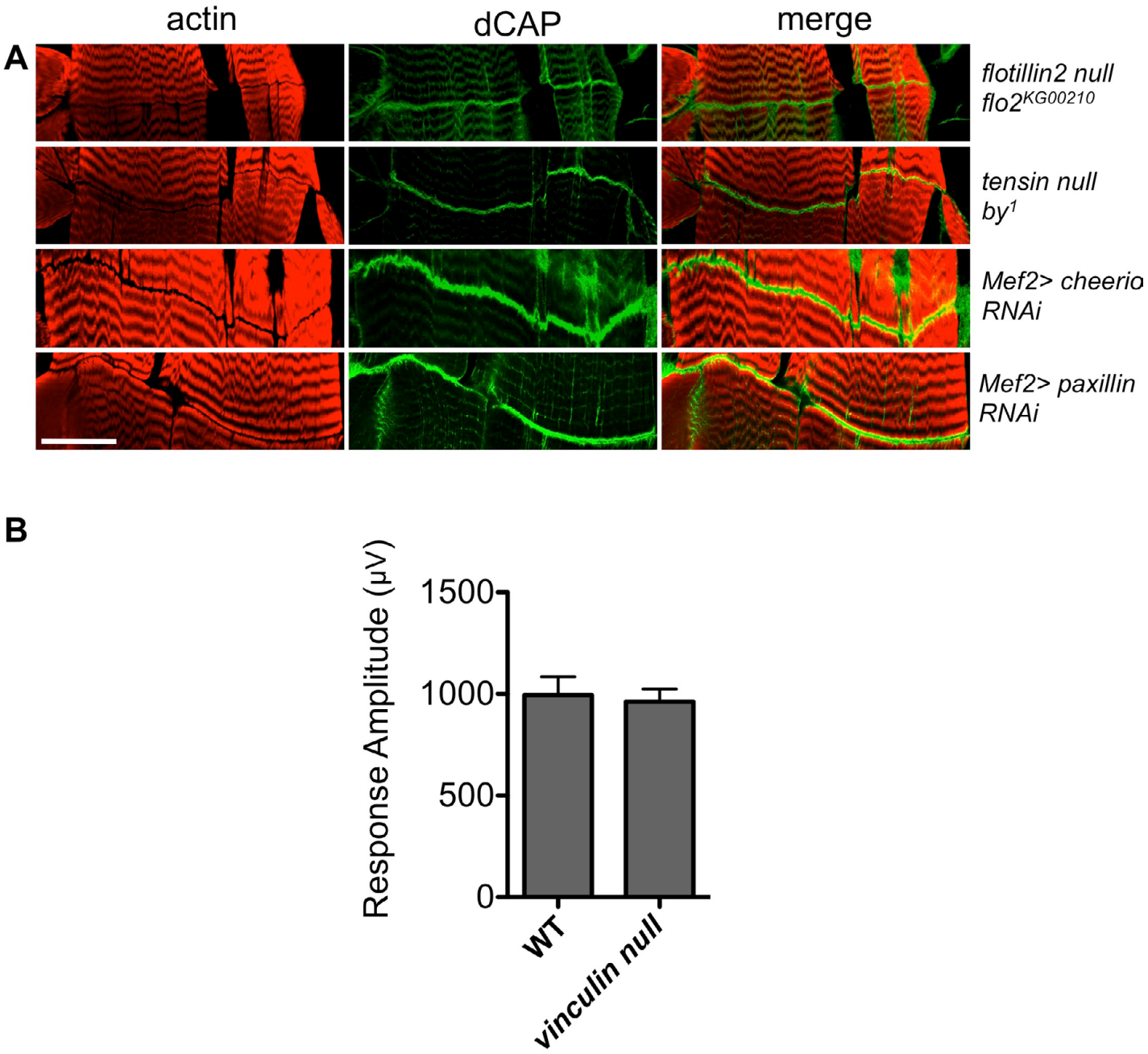
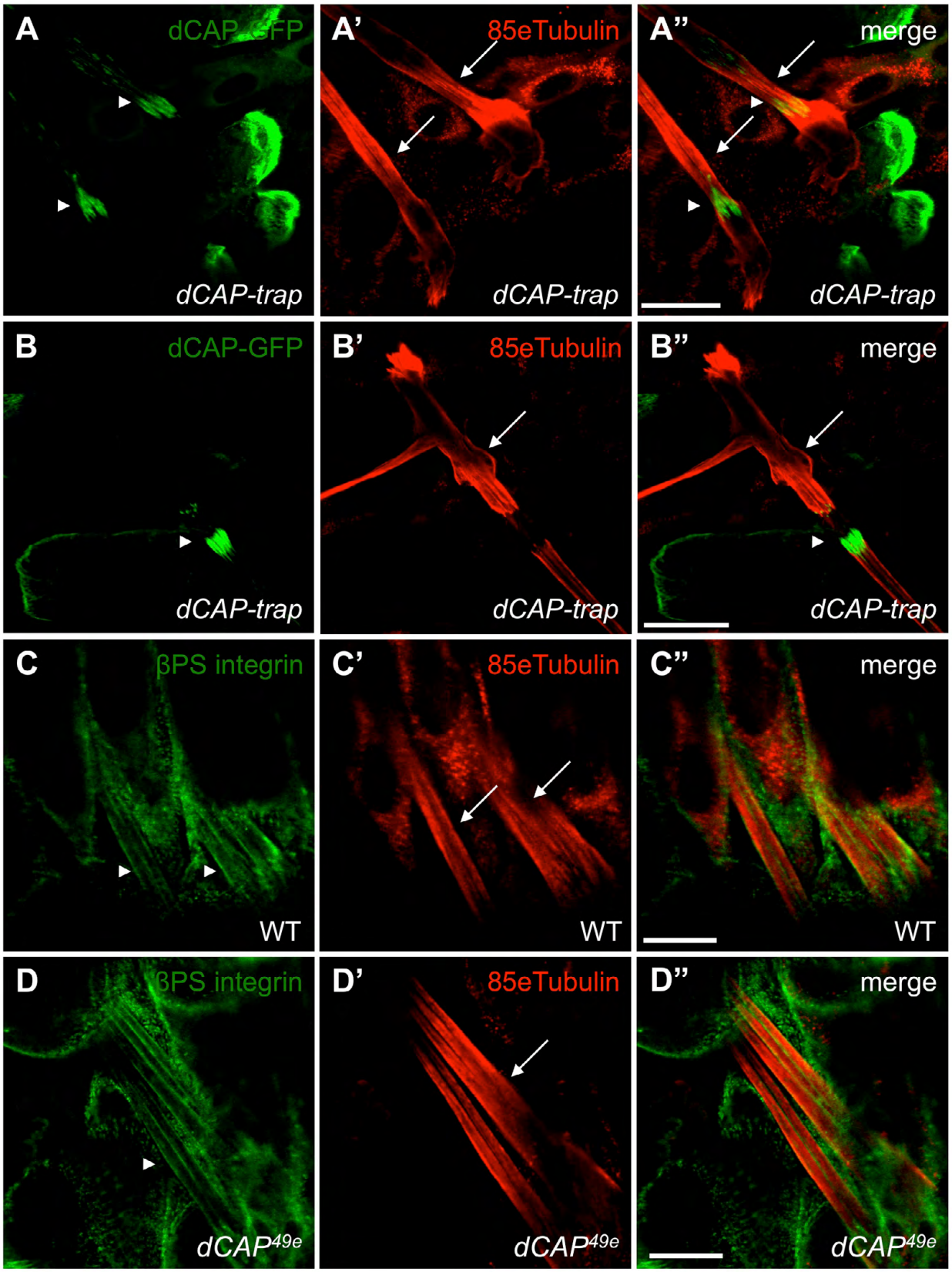


Fig. S7. Fig. S7. MAS and audition analysis in animals lacking CAP-binding proteins. (**A**) Muscle attachment sites of larval fillets from indicated genotypes were labeled with phalloidin and CAP antibody. No abnormalities were detected in *tensin*- and *flotillin*-null larvae, or in larvae expressing *cheerio* (*filamin*) or *paxillin* RNAi under the *Mef2-Gal4* driver. Scale bars: 30 μm. (**B**) Sound-evoked potentials recorded from the auditory nerves of wild type and *vinculin*-null flies (n=10 animals).



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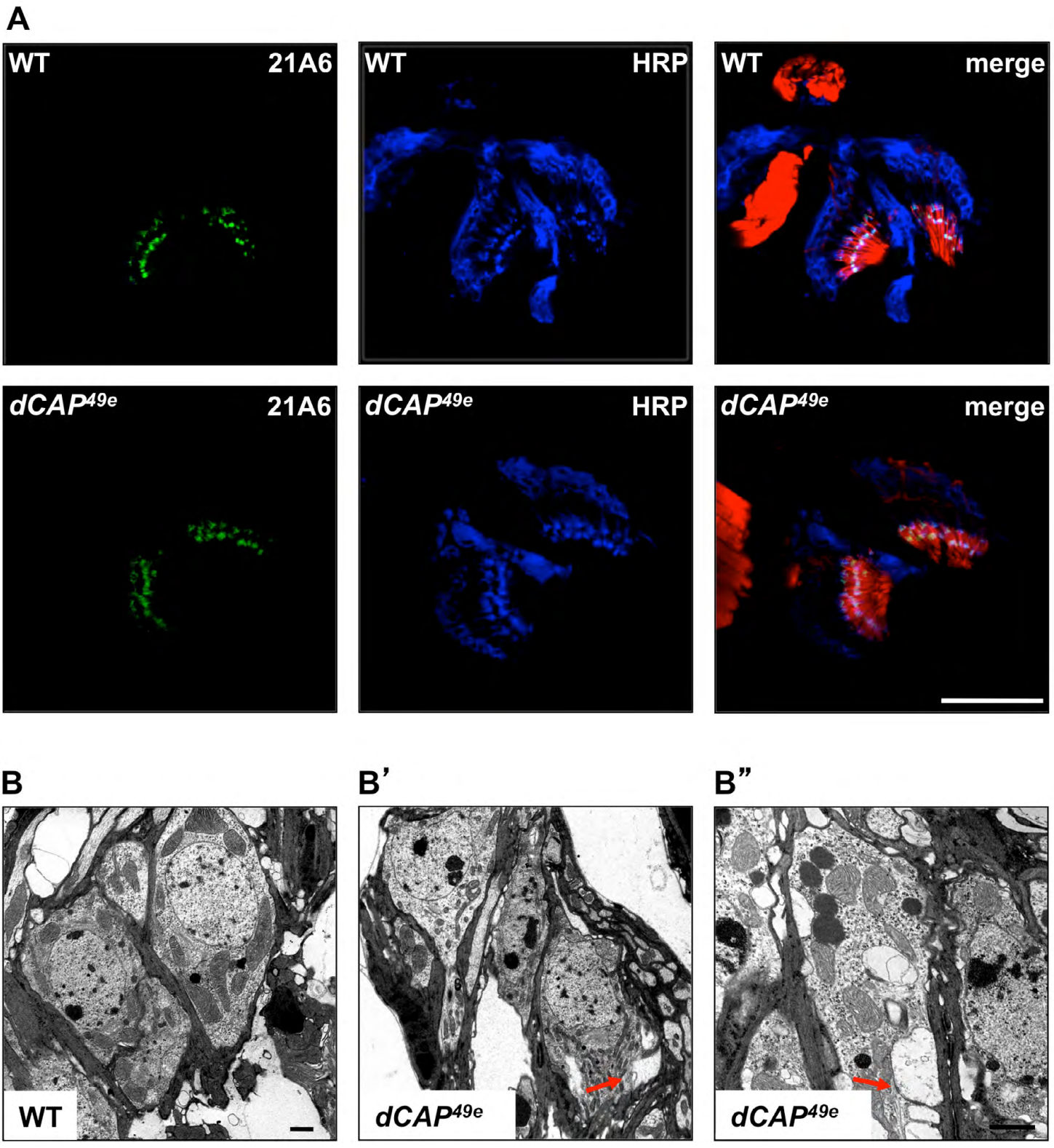

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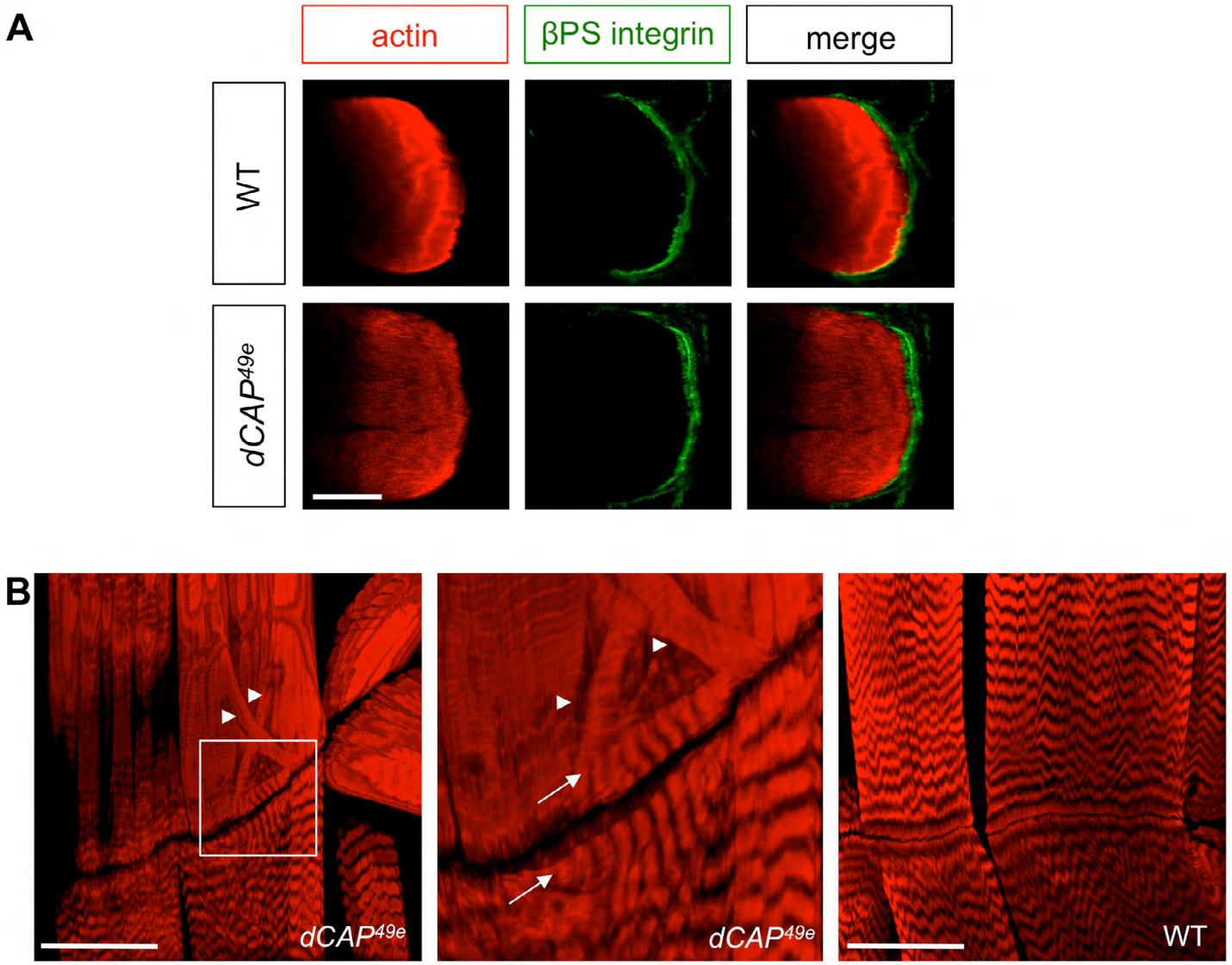

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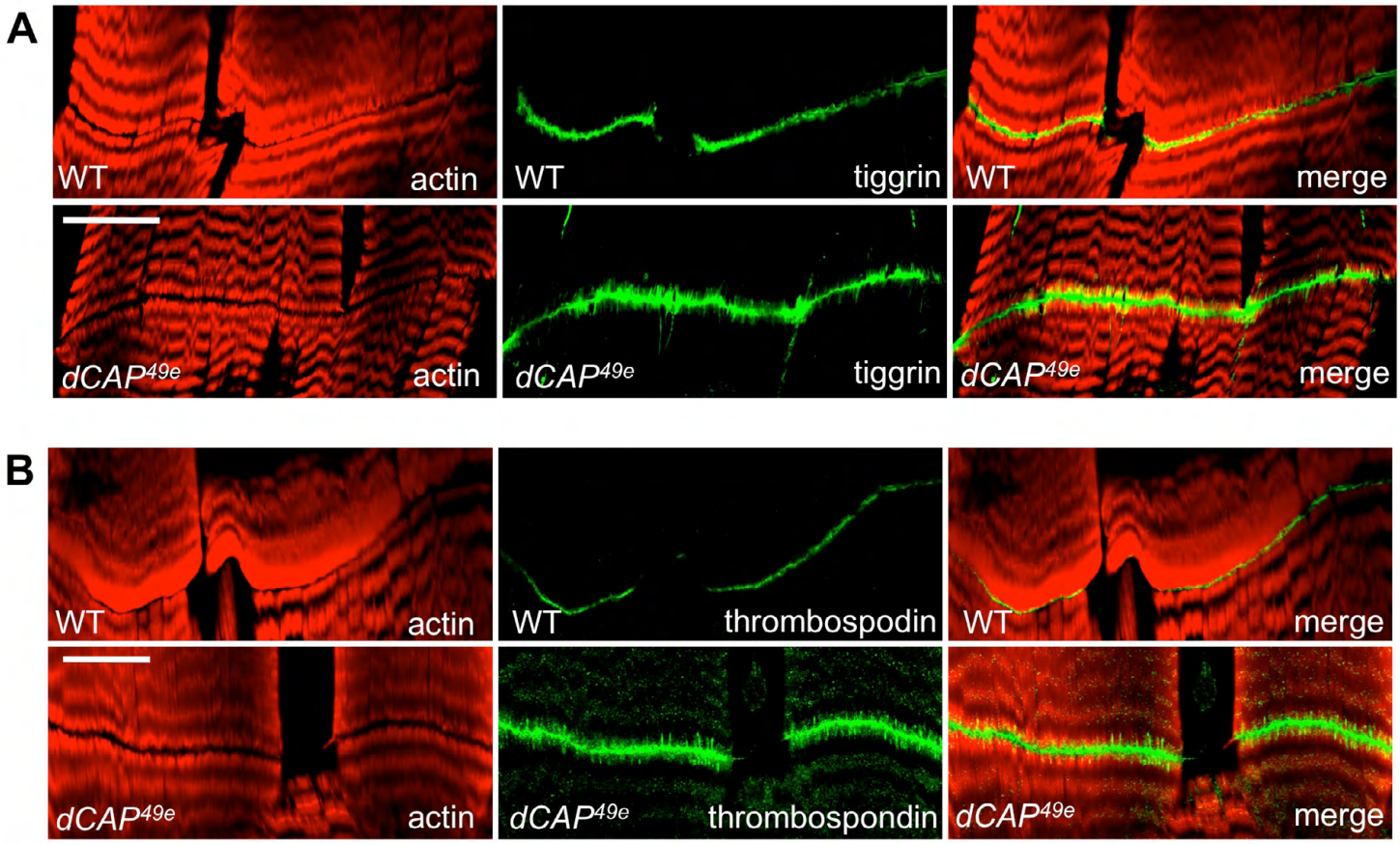

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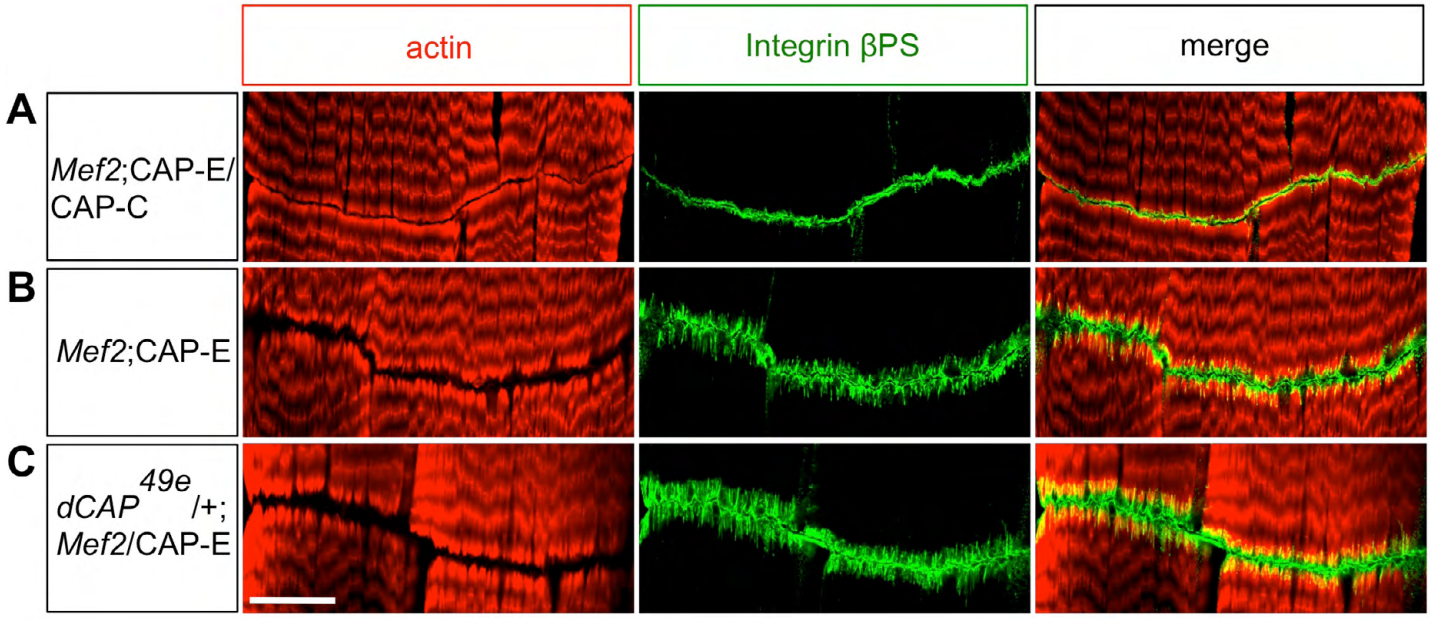

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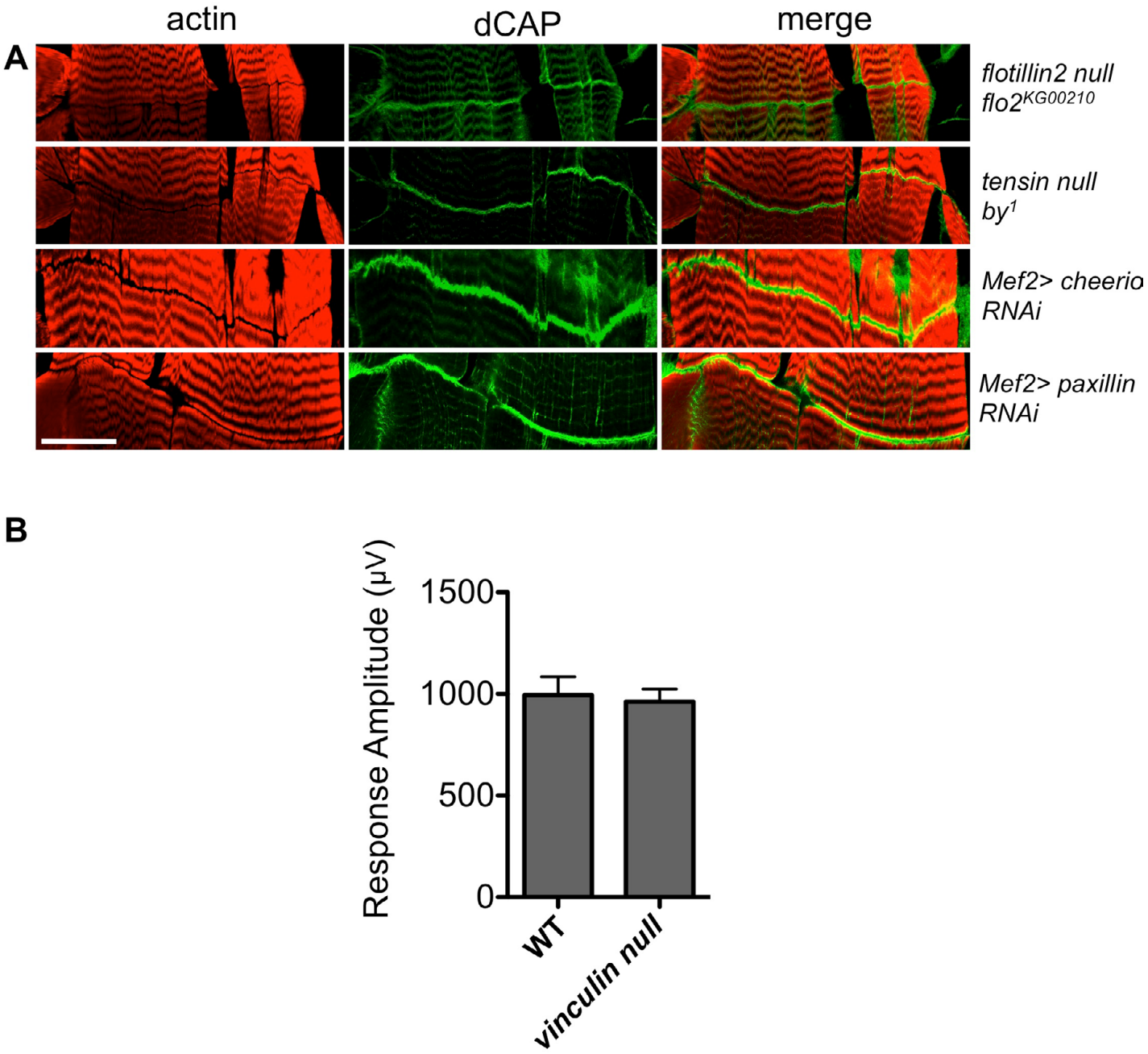

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