Supplumentary Information for

Postsynaptic $Ca_V1.1$-driven calcium signaling coordinates presynaptic differentiation at the developing neuromuscular junction

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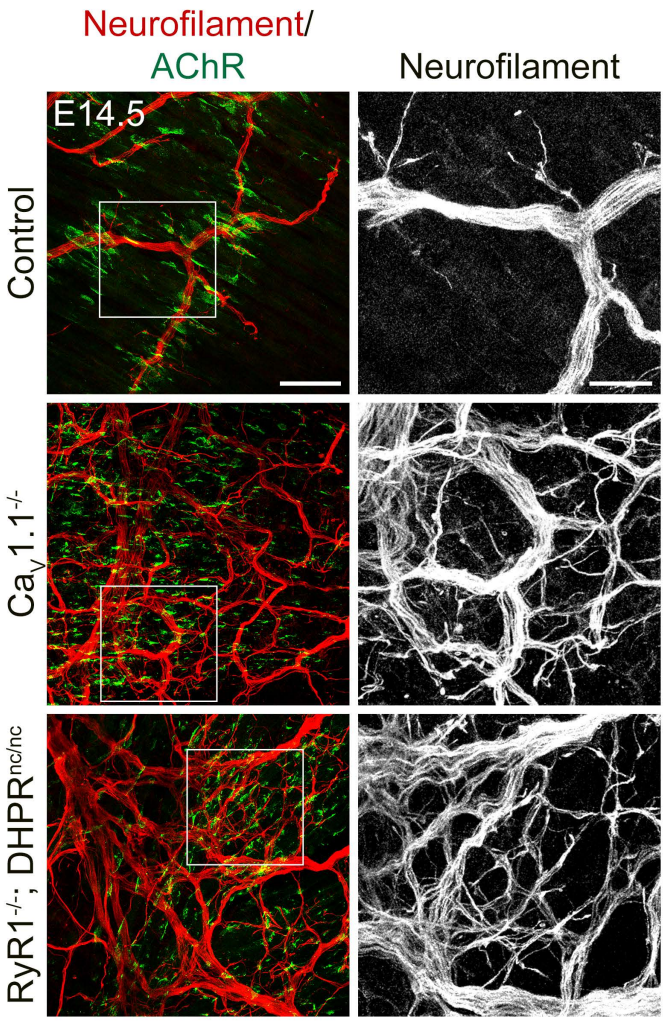
This file includes Supplementary Figure 1 and 2.

Supplementary Figure Legend

Suppl. Fig. 1: Aberrant motor nerve defasciculation in $Ca_V1.1^{-/-}$ and $RyR1^{-/-}$; $DHPR^{nc/nc}$ E14.5 diaphragms. Motor axons and AChRs are labeled with neurofilament antibody (red) and α-BTX (green). Motor nerves in diaphragm of control mice at E14.5 run in fascicles with small branches projecting towards the AChR clusters. In $Ca_V1.1^{-/-}$ and $RyR1^{-/-}$; $DHPR^{nc/nc}$ diaphragms motor nerves are severely defasciculated and show excessive branching. Scale bar: 50 μm. Motor axons in white boxes are displayed in zoomed images on the right. Scale bar: 20 μm.

Suppl. Fig. 2: Extrasynaptic localization of VAChT in $Ca_V1.1^{-/-}$ diaphragms. Vesicular acetylcholine transporter VAChT is stained together with AChRs in E18.5 diaphragms of $Ca_V1.1^{-/-}$ mice and their control littermates. Similar to synapsin (Fig. 6), VAChT is colocalized with AChR clusters and absent from extrasynaptic regions in controls, but in $Ca_V1.1^{-/-}$ displays ectopically located clusters throughout the neurites (shown by arrows). Scale bars 20 μm. Regions in white boxes are magnified in the micrographs on the right. Scale bar: 5 μm.

Supplementary Figure 1



Supplementary Figure 2