**Video SV1.** Exemplary image stack and CHRN channel contrast enhancement. A TA muscle was transfected with RAB5S34N-GFP. Nine days later, BGT-AF647 was injected to label CHRN. One day later, the muscle was imaged with confocal in vivo microscopy. The video shows an exemplary image stack to explain what is seen in the still pictures of this manuscript, and to illustrate the effect of contrast enhancement, which was applied to detect and display CHRN vesicles. The same microscopy field is shown repetitively, but with different settings. As indicated in the upper right corner, the loop shows the following sequence: (1) Overlay of CHRN and GFP signals with CHRN contrast enhanced, (2) CHRN channel alone without contrast enhancement, (3) CHRN channel alone with contrast enhancement, (4) GFP channel alone without contrast enhancement, and (5) Overlay of CHRN and GFP signals as maximum-z projection with the CHRN channel contrast enhanced. Scale bar: 20 µm. Z-interval between each picture, 2 µm. The green tube-like structure represents the GFP-expressing muscle fiber, the white pretzel-like structure an NMJ, and the white puncta CHRN-positive vesicles.