



Supplementary information, Figure S3 (A) Immunostaining with antibodies against Myc shows the LDCV-localization of exogenously expressed Myc-DOR1, $K_V\text{-}\beta 2\text{-Myc}$ and B1 BKR-Myc in PC12 cells. Scale bar, 4 μm . (B) Immunostaining with antibodies against Myc shows that in transfected PC12 cells Myc-DOR1, P2X₂-Myc and Dvl1-Myc (in red) are not co-localized with early endosome marker EEA1 (in green). Scale bar, 4 μm . (C) Pre-embedding immunogold-silver labeling with Myc antibodies shows localization of $\beta 2$ AR-Myc in LDCVs in PC12 cells. Scale bar, 100 nm. (D) Post-embedding immunogold (10 nm or 15 nm in diameter) staining shows the localization of some ion channels and signaling molecules in LDCVs in the afferent terminals in spinal lamina II of mice. Scale bar, 200 nm.