

Expanded View Figures

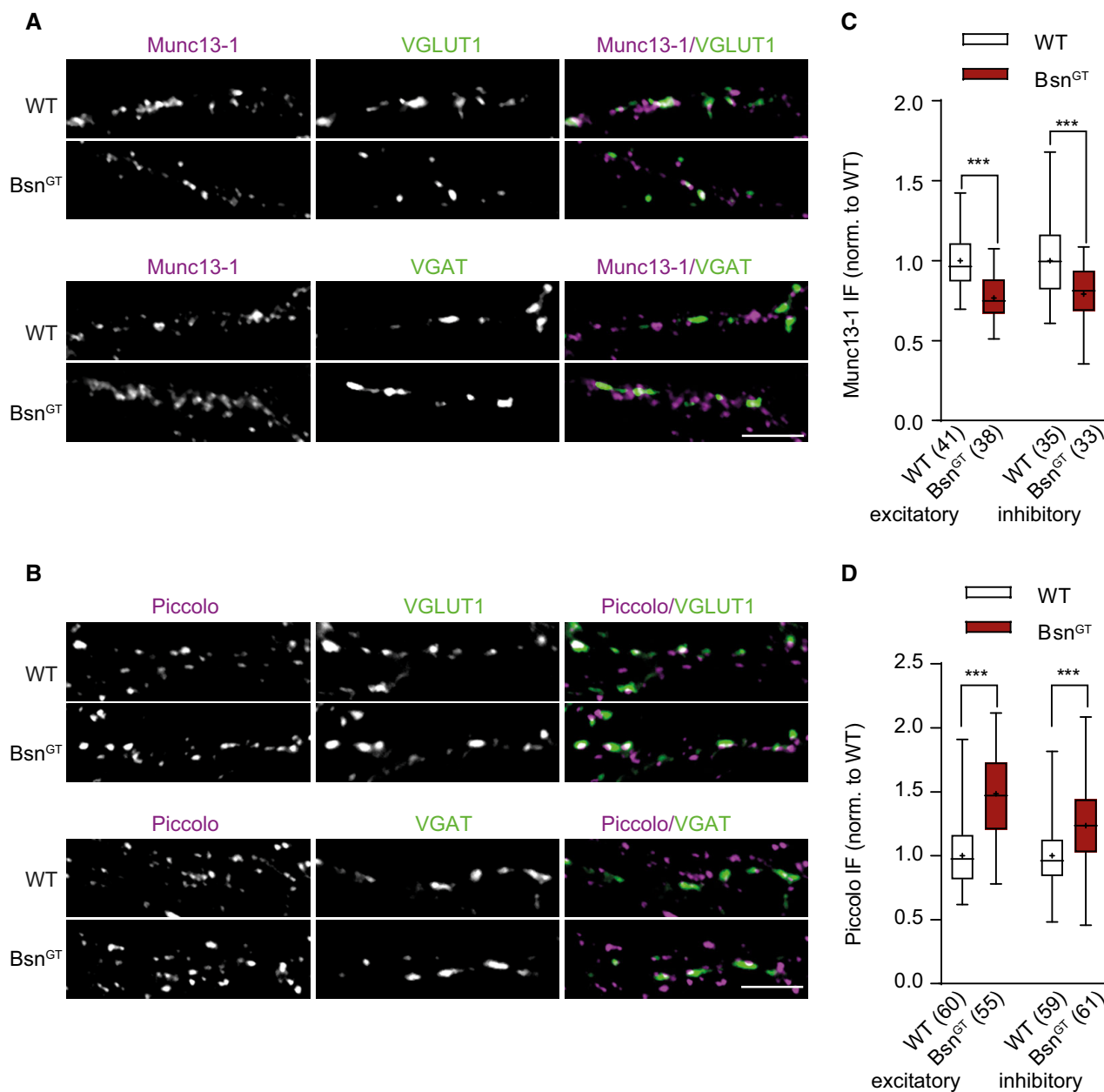


Figure EV1. Synaptic expression of Munc13 and Pclo are changed independently of synapse type in Bsn^{GT} neurons.

A, B Representative images of 20 DIV cultured hippocampal neurons from WT and Bsn^{GT} immunolabelled for Munc13-1 (A) and Pclo (B) together with VGLUT1 or VGAT to mark excitatory and inhibitory synapses, respectively.

C, D Quantification of IF intensity for Munc13-1 (C) and for Pclo (D) in excitatory and inhibitory synapses from WT and Bsn^{GT} reveals a decreased IF for Munc13-1 and an increased IF for Pclo in both synapse types in Bsn^{GT} neurons.

Data information: In the plots, the interquartile range and median are depicted as boxes, minimal and maximal values as whiskers, and + indicates mean. The sample size is given in brackets and corresponds to quantified independent visual fields obtained from three and four independent culture preparations (C, D). Statistical significance was assessed using the Student's *t*-test and is given as: ****P* < 0.0001 for (C) in excitatory and (D) in excitatory and inhibitory puncta and ****P* = 0.0003 in inhibitory synapses. Scale bar is 5 μ m.

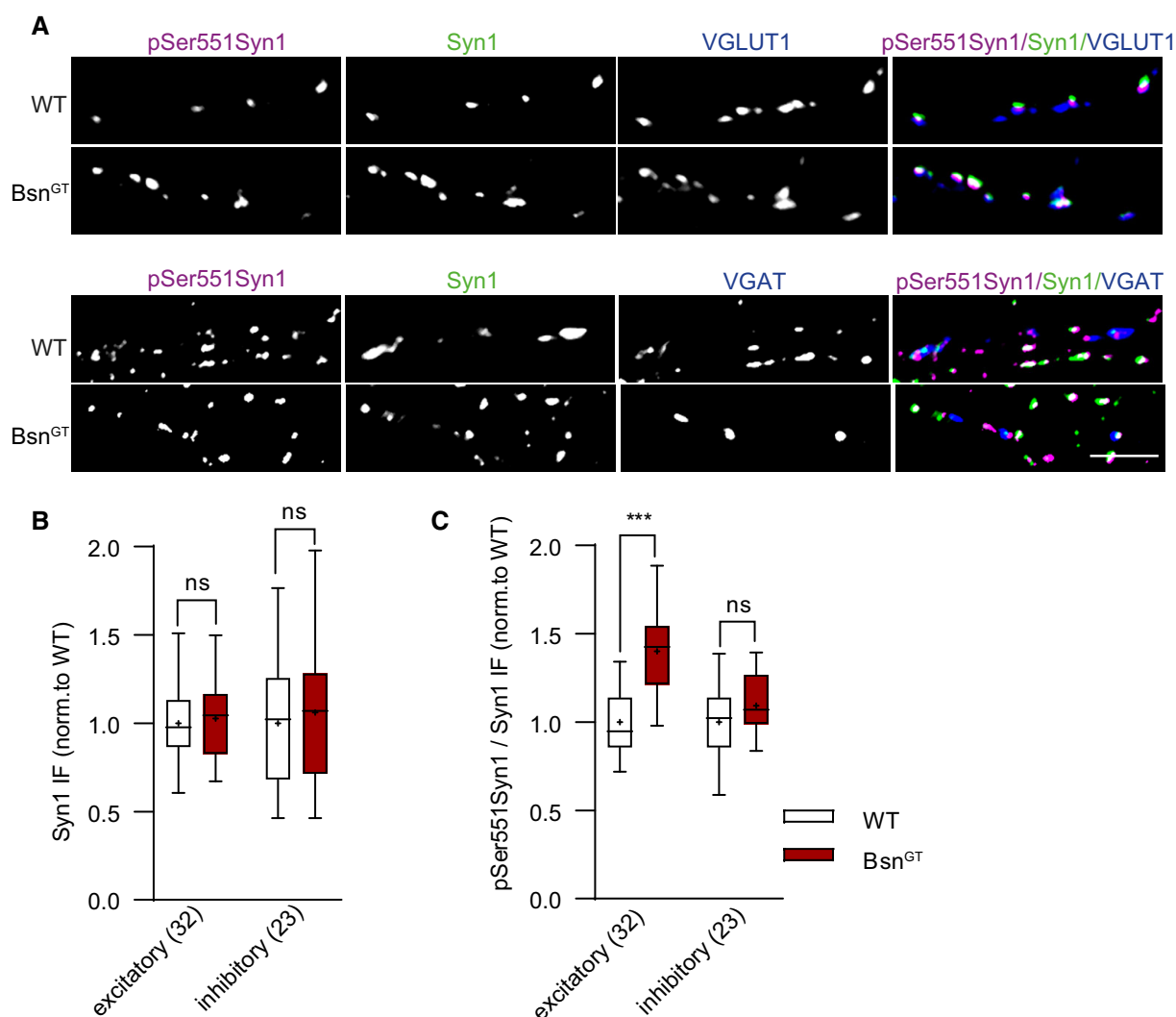


Figure EV2. Increased phosphorylation of pSer551Syn1 in excitatory but not in inhibitory synapses of Bsn^{GT} neurons.

A Representative images of 20 DIV cultured hippocampal neurons from WT and Bsn^{GT} immunolabelled for pSer551Syn1, total Syn1 and for VGLUT1 or VGAT to identify excitatory and inhibitory synapses.

B Quantification of synaptic Syn1 IF intensity in Vglut1-labelled excitatory and VGAT-labelled inhibitory synapses does not differ between Bsn^{GT} and WT neurons.

C Quantification of IF intensity of pSer551Syn1 relative to synaptic Syn1 IF reveals an increased pSer551Syn1 abundance in excitatory but not in inhibitory synapses of Bsn^{GT} neurons, indicating a synapse type-specific effect of Bsn deletion on phosphorylation of synaptic Syn1 at Ser551.

Data information: In the plots, the interquartile range and median are depicted as boxes, minimal and maximal values as whiskers, and + indicates mean. The sample size is given in brackets and corresponds to quantified independent visual fields obtained from three independent culture preparations (B, C). Statistical significance was assessed using the Student's t-test in (B) and (C) and is given as: *** $P < 0.0001$. Scale bar is 5 μ m.

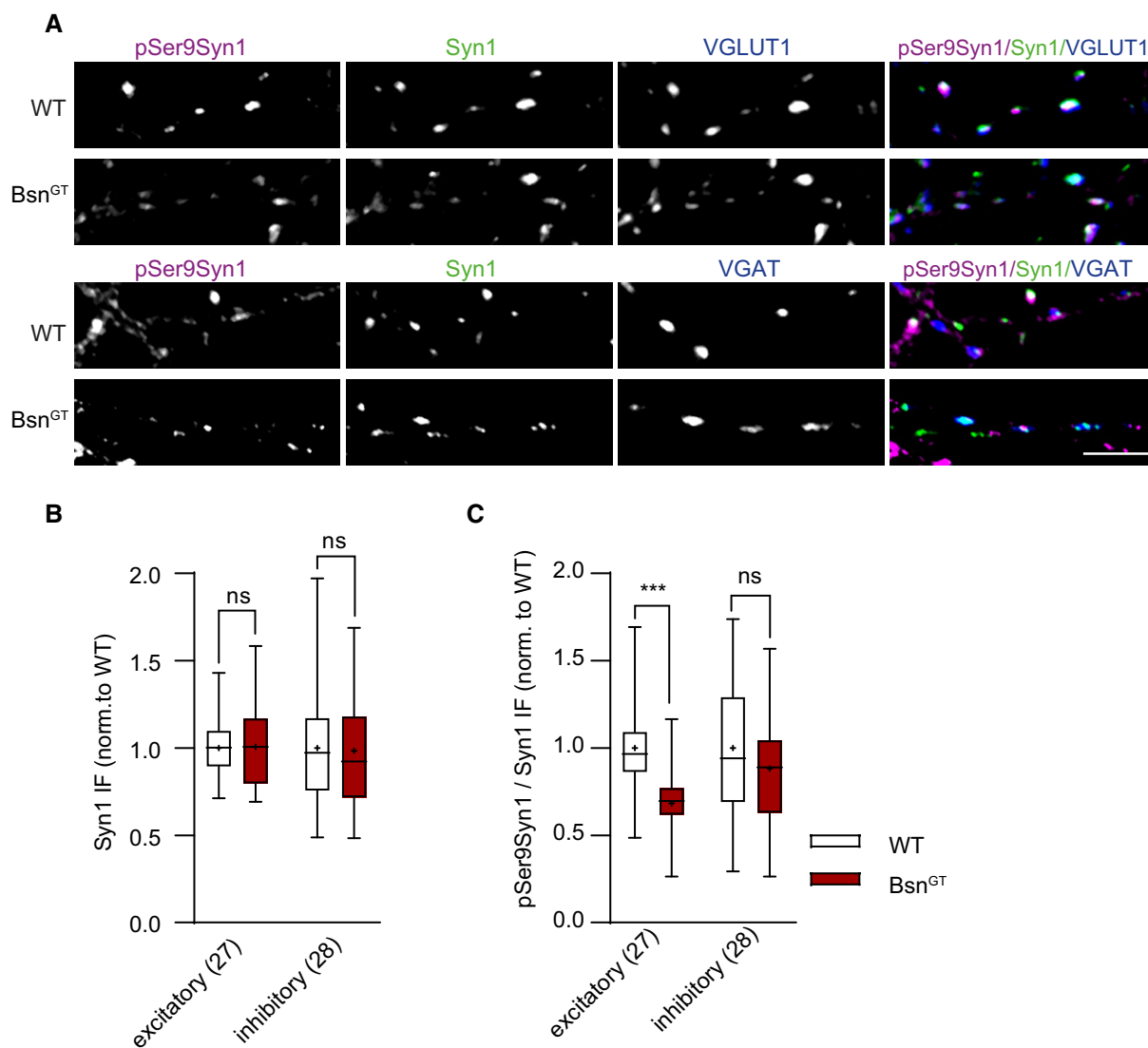


Figure EV3. Decreased phosphorylation of pSer9Syn1 in excitatory but not in inhibitory synapses of Bsn^{GT} neurons.

- A Representative images of 19 DIV cultured hippocampal neurons from WT and Bsn^{GT} immunolabelled for pSer9Syn1 and total Syn1 and for VGLUT1 or VGAT to identify excitatory and inhibitory synapses.
- B Quantification of IF intensity of Syn1 in excitatory and inhibitory synapses labelled for VGLUT1 and VGAT, respectively, reveals a similar synaptic abundance in Bsn^{GT} and WT neurons.
- C Quantification of IF intensity of pSer9Syn1 relative to the intensity of synaptic Syn1 IF reveals a decreased synaptic abundance of pSer9Syn1 in excitatory but not in inhibitory synapses of Bsn^{GT} neurons, indicating synapse type-specific effect of Bsn deletion on Syn1 phosphorylation.

Data information: In the plots, the interquartile range and median are depicted as boxes, minimal and maximal values as whiskers, and + indicates mean. The sample size is given in brackets and corresponds to quantified independent visual fields obtained from three independent culture preparations (B, C). Statistical significance was assessed using the Student's t-test in (B) and (C) and is given as: *** $P < 0.0001$. Scale bar is 5 μ m.