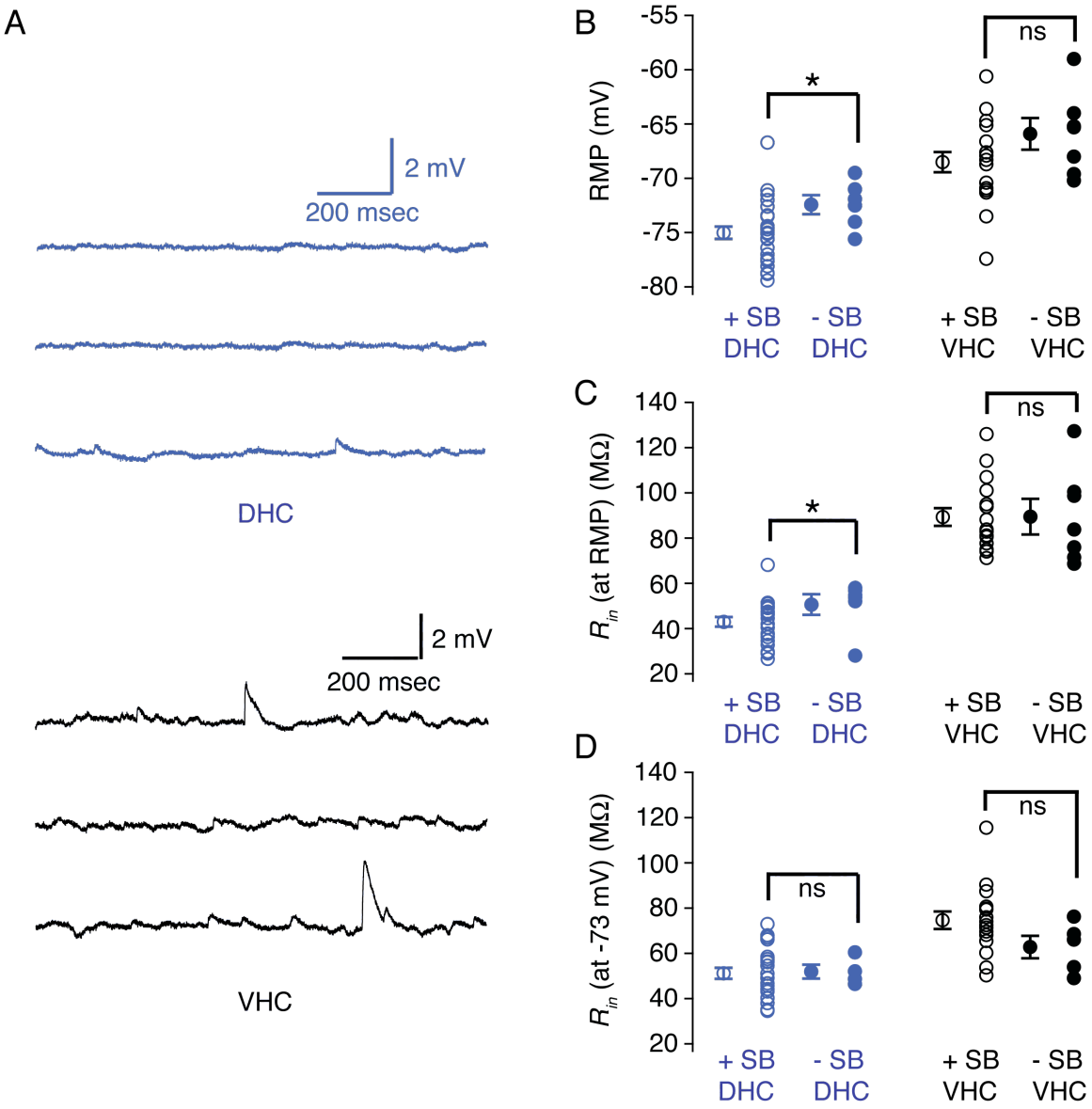
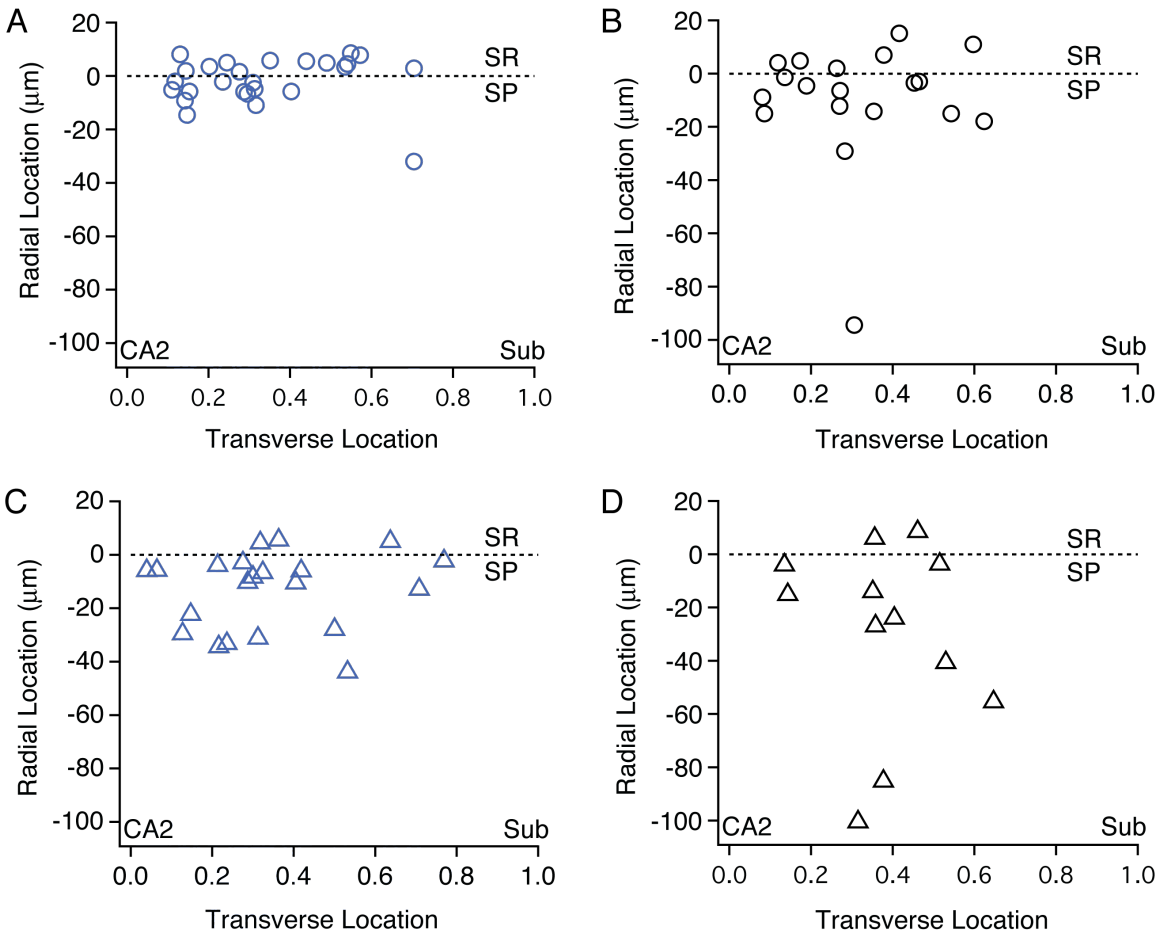
Supplementary Material

Supplementary Figure 1



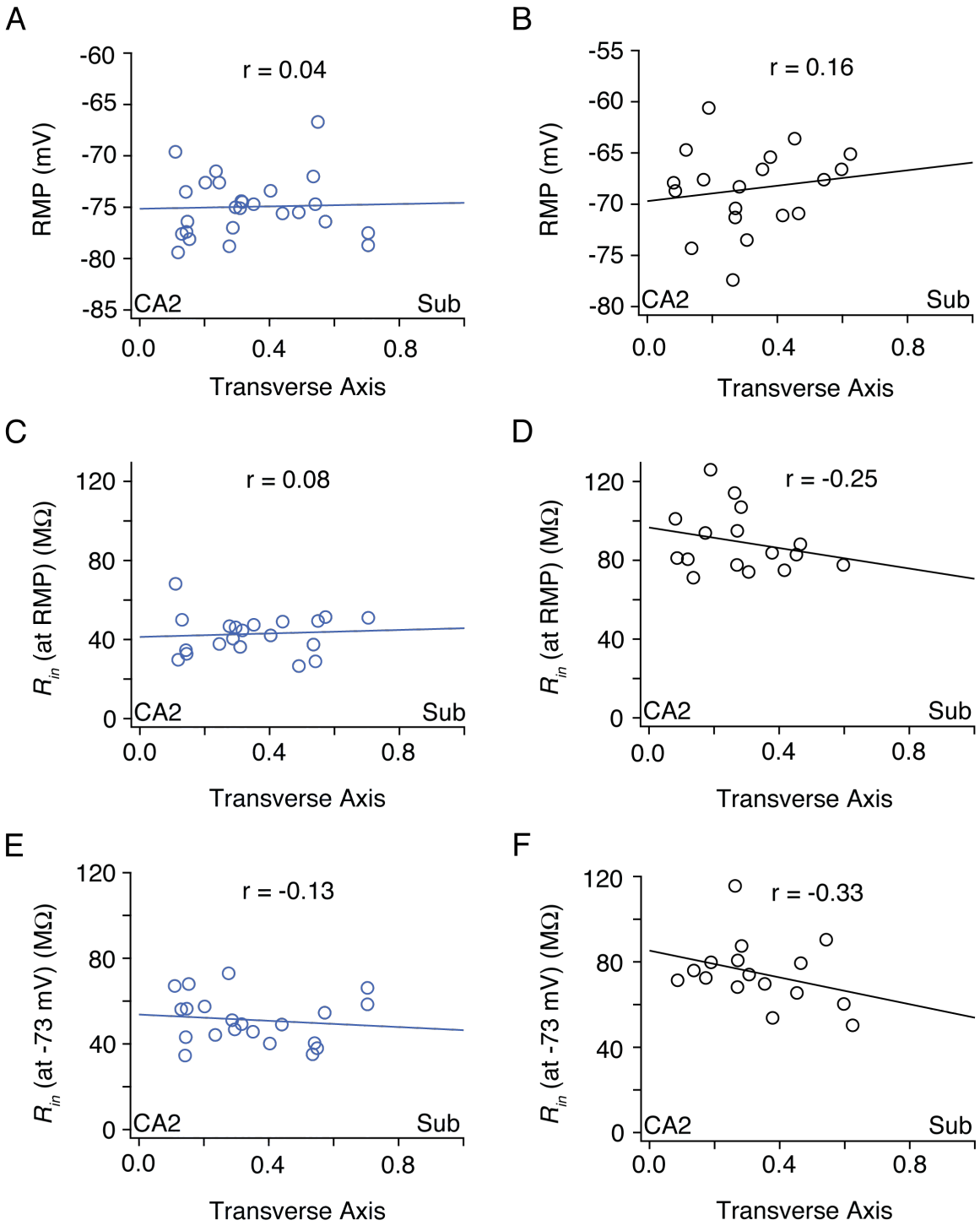
Supplementary Figure 1: Effect of synaptic blockers on RMP, R_{in} (at RMP), and R_{in} (at -73 mV). **A)** Background synaptic activity was monitored over 1 second stimulus-free recording episodes for DHC (blue traces) and VHC (black traces) neurones. The background activity for VHC neurones was generally found to be higher than DHC neurones, although this observation was not quantified. **B)** RMP measured in the presence (+SB; hollow circles) or absence (-SB; filled circles) of synaptic blockers for DHC (blue circles) and VHC (black circles) neurones. RMP was significantly more depolarized in the absence of synaptic blockers for DHC neurones (Wilcoxon RS test, $p < 0.05$), but not VHC neurones (Wilcoxon RS test, $p > 0.05$). **C)** R_{in} (at RMP) in the presence (+SB; hollow circles) or absence (-SB; filled circles) of synaptic blockers for DHC (blue circles) and VHC (black circles) neurones. R_{in} (at RMP) was significantly higher for DHC neurones in the absence of synaptic blockers (Wilcoxon RS test, $p < 0.05$), but not VHC neurones (Wilcoxon RS test, $p > 0.05$). **D)** R_{in} (at -73 mV) in the presence (+SB; hollow circles) or absence (-SB; filled circles) of synaptic blockers for DHC (blue circles) and VHC (black circles) neurones. R_{in} (at -73 mV) was not significantly different in the absence of synaptic blockers for either DHC neurones (Wilcoxon RS test, $p > 0.05$) or VHC neurones (Wilcoxon RS test, $p > 0.05$).

Supplementary Figure 2



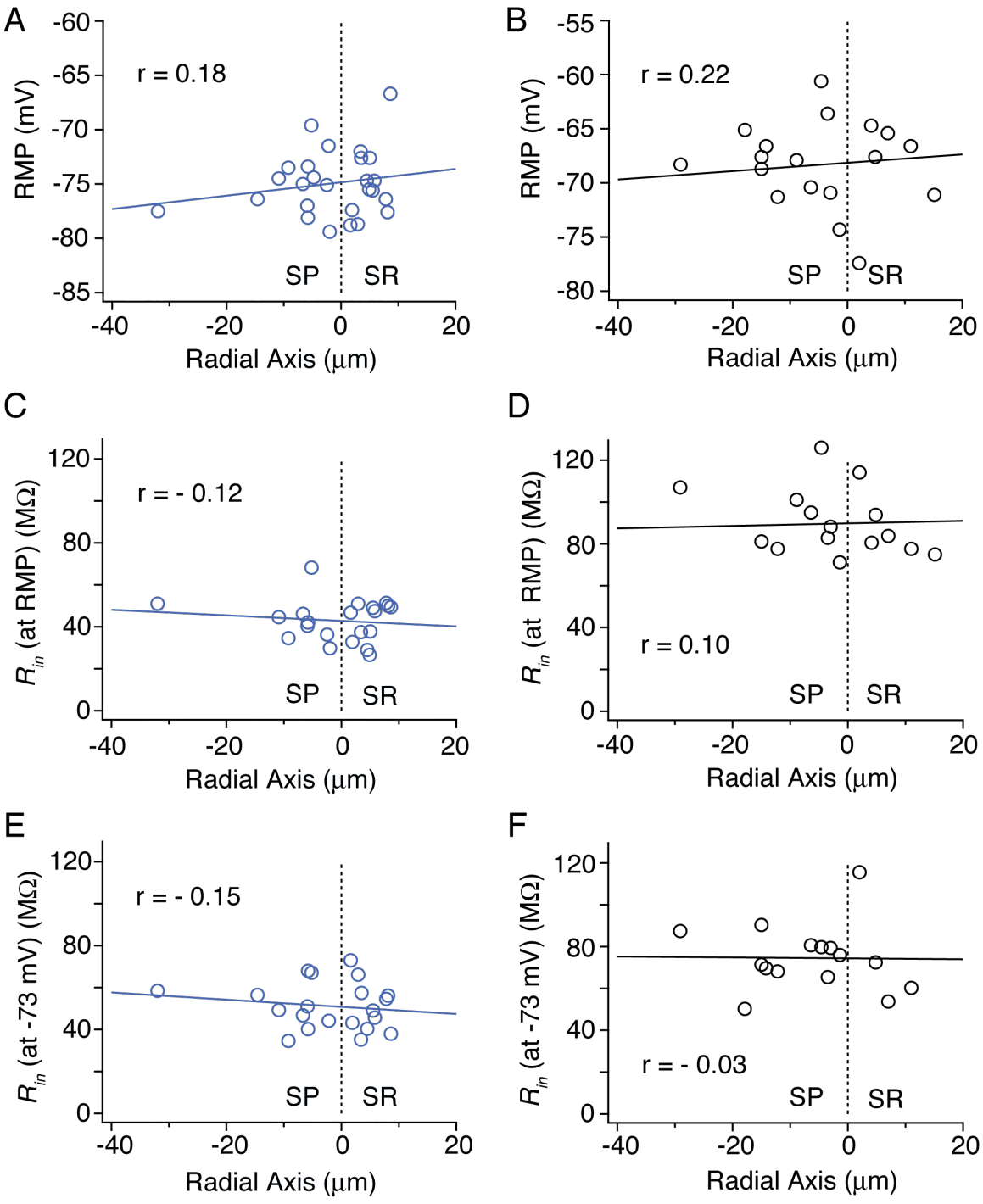
Supplementary Figure 2: Somatic locations in the transverse and radial hippocampal axes. A-B) Somatic locations of neurones used in somatic recordings from the DHC (A) and VHC (B) in the radial and transverse axes. **C-D)** Somatic locations of neurones used in dendritic recordings from the DHC (C) and VHC (D) in the radial and transverse axes. The dotted lines represent the SP / SR boundary.

Supplementary Figure 3



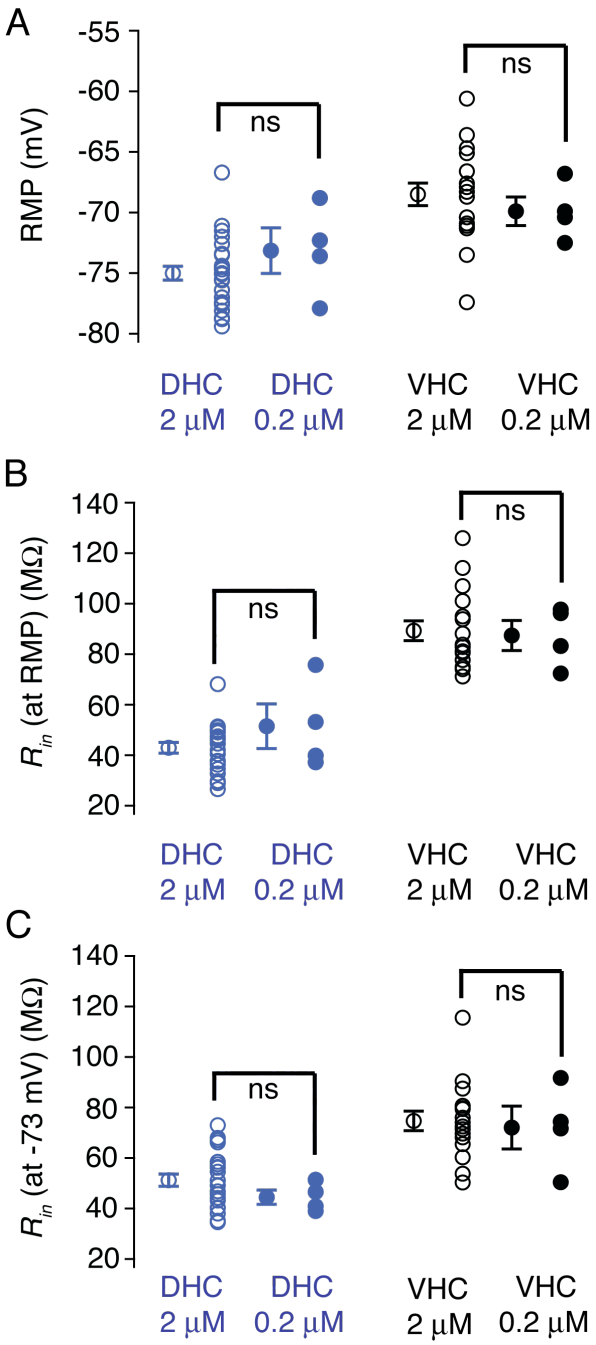
Supplementary Figure 3: Relationship between RMP, R_{in} (at RMP), R_{in} (at -73 mV) and somatic location in the transverse hippocampal axis. **A-B)** RMP was not significantly correlated with somatic location in the transverse axis for DHC (A; Pearson's correlation test, r = 0.04, p > 0.05) or VHC (B; Pearson's correlation test, r = 0.16, p > 0.05) neurones. **C-D)** R_{in} (at RMP) was not significantly correlated with somatic location in the transverse axis for DHC (C; Pearson's correlation test, r = 0.08, p > 0.05) or VHC (D; Pearson's correlation test, r = -0.25, p > 0.05) neurones. **E-F)** R_{in} (at -73 mV) was not significantly correlated with somatic location in the transverse axis for DHC (E; Pearson's correlation test, r = -0.13, p > 0.05) or VHC (F; Pearson's correlation test, r = -0.33, p > 0.05) neurones.

Supplementary Figure 4



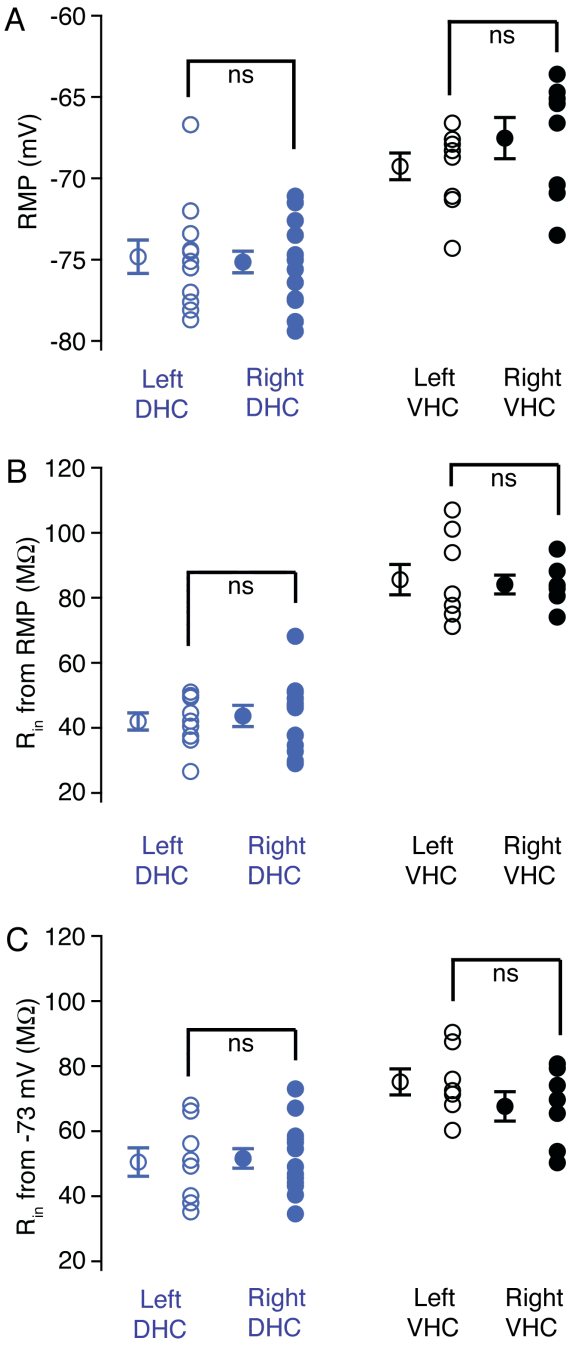
Supplementary Figure 4: Relationship between RMP, R_{in} (at RMP), R_{in} (at -73 mV) and somatic location in the radial hippocampal axis. A-B) RMP was not significantly correlated with somatic location in the radial axis for DHC (A; Pearson's correlation test, r = 0.18, p > 0.05) or VHC (B; Pearson's correlation test, r = 0.22, p > 0.05) neurones. **C-D)** R_{in} (at RMP) was not significantly correlated with somatic location in the radial axis for DHC (C; Pearson's correlation test, r = -0.12, p > 0.05) or VHC (D; Pearson's correlation test, r = 0.10, p > 0.05) neurones. **E-F)** R_{in} (at -73 mV) was not significantly correlated with somatic location in the radial axis for DHC (E; Pearson's correlation test, r = -0.15, p > 0.05) or VHC (F; Pearson's correlation test, r = -0.03, p > 0.05) neurones.

Supplementary Figure 5



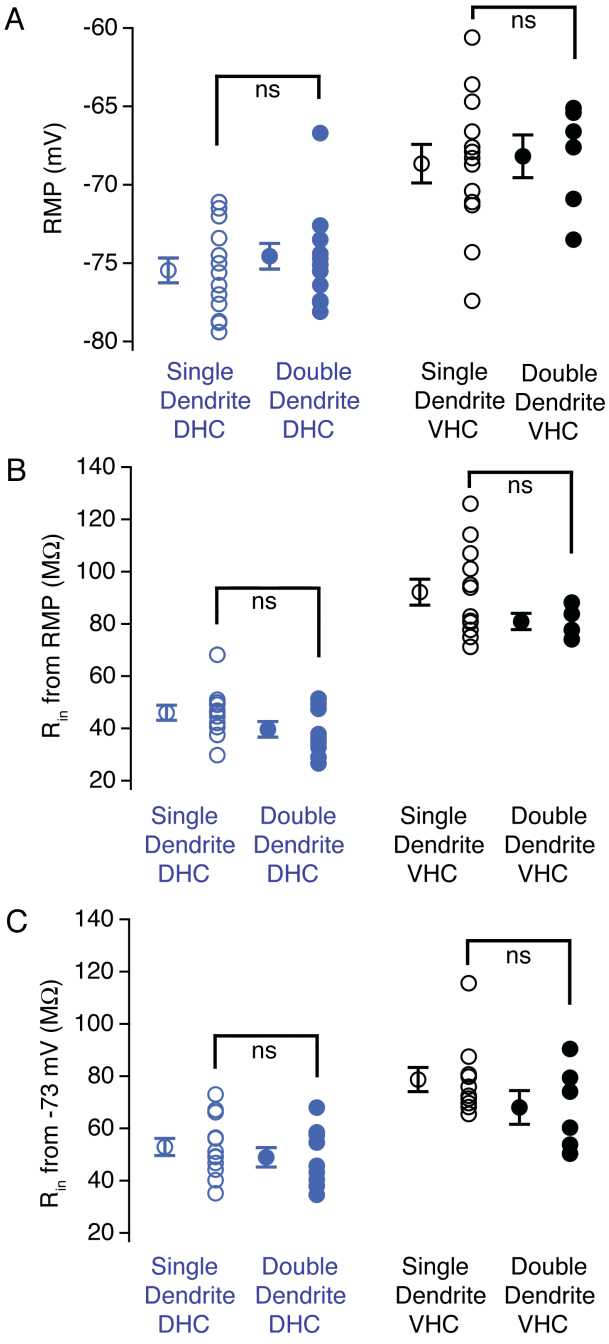
Supplementary Figure 5: Effect of 0.2 μM Gabazine on RMP, R_{in} (at RMP), and R_{in} (at -73 mV). A-C) RMP (A), R_{in} (at RMP) (B), and R_{in} (at -73 mV) (C) were measured in aCSF supplemented with either 2 μM (2 μM; hollow circles) or 0.2 μM Gabazine (0.2 μM; filled circles) for DHC (blue circles) and VHC (black circles) neurones. 20 μM DNQX and 50 μM D,L-APV were present in the aCSF of both groups. No significant differences between aCSFs supplemented with 2 μM or 0.2 μM Gabazine were observed for RMP (DHC; Wilcoxon RS test, $p > 0.05$, VHC; Wilcoxon RS test, $p > 0.05$), R_{in} (at RMP) (DHC; Wilcoxon RS test, $p > 0.05$, VHC; Wilcoxon RS test, $p > 0.05$), or R_{in} (at -73 mV) (DHC; Wilcoxon RS test, $p > 0.05$, VHC; Wilcoxon RS test, $p > 0.05$).

Supplementary Figure 6



Supplementary Figure 6: RMP, R_{in} (at RMP) and R_{in} (at -73 mV) for neurones from the right and left hemisphere were not different. Somatic recordings were divided into two groups according to their hemisphere of origin (left; hollow circles, right; filled circles) for DHC (blue) and VHC (black) neurones. **A-C)** There were no significant differences in RMP (A), R_{in} (at RMP) (B), or R_{in} (at -73 mV) (C) detected between neurones from the left or right hemisphere (RMP; DHC, Student's t test, $p > 0.05$, VHC, Student's t test, $p > 0.05$, R_{in} (at RMP); DHC, Student's t test, $p > 0.05$, VHC, Student's t test, $p > 0.05$, R_{in} (at -73 mV); DHC, Student's t test, $p > 0.05$, VHC, Student's t test, $p > 0.05$).

Supplementary Figure 7



Supplementary Figure 7: RMP, R_{in} (at RMP), and R_{in} (at -73 mV) from neurones with single apical dendrites were indistinguishable from CA1 neurones with double apical dendrites. Somatic recordings were divided into two groups according to whether the neuron had a single or double apical dendrite (single apical dendrite; hollow circles, double apical dendrite; filled circles) for DHC (blue) and VHC (black) neurones. **A-C)** There were no significant differences in RMP (A), R_{in} (at RMP) (B), or R_{in} (at -73 mV) (C) detected between neurones with a single or double apical dendrite (RMP; DHC, Wilcoxon RS test, $p > 0.05$, VHC, Student's t test, $p > 0.05$, R_{in} (at RMP); DHC, Student's t test, $p > 0.05$, VHC, Student's t test, $p > 0.05$, R_{in} (at -73 mV); DHC, Student's t test, $p > 0.05$, VHC, Wilcoxon RS test, $p > 0.05$).