Statistics for the paper:

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Nature Communications , **7:13033**, DOI:10.1038/NCOMMS13033

RESULTS		Page Figure	Test Used	n		reported data	p value	$F/t/R^2$ (DF)
difference in baseline G/R signal		p. 2	Student t-test	54	line scans	mean ± SEM	0.17036	t(53)=-1.38995
effects of somatic hyperpolarization on dendritic bAP-evoked calcium-signals	proximal	p. 2	Student t-test	31	line scans	mean ± SEM	$2.5x10^{-9}$	t(30)=8.35
	distal	p. 3		12			0.0022	t(11)=-3.981
distance dependence of the effects of somatic hyperpolarization on dendritic bAP-evoked calcium-signals		p. 3	linear regression	54	line scans	adjusted R^2	$2.9x10^{-12}$ R^2: 0.604	F(53) = 81.96
MP with or without gIA		p. 5	paired t-test	11	cells	mean ± SEM	0.633	t(10)=-0.4919
AP peak with or without gIA				11			0.031	t(10)=2.516
ca-signals with or without gIA		p. 5, Fig.4c	Student t-test	11	line scans	mean ± SEM	0.00012	t(10)=6.081
ca-signals with or without gpassive				7			0.685	t(6)=-0.426
comparison of calcium currents in nucleated patches evoked by hyperpolarized or depolarized AP-waveforms in the presence of…	NNC	p. 7, Fig.5a	Student t-test	9	nucl. patches	mean ± SEM	0.00073	t(8)=5.298
	Ni^{2+}			6			0.444	t(5)= 0.83106
effects of somatic hyperpolarization on dendritic bAP-evoked calcium-signals in the presence of…	NNC	p. 7, Fig.5c	Student t-test	26	line scans	mean ± SEM	$2x10^{-8}$	t(25)=8.016
	Ni^{2+}			9			$2x10^{-5}$	t(8)=9.002
effects of somatic hyperpolarization on dendritic bAP-evoked calcium-signals		p. 7, Fig.5c	ANOVA with posthoc Bonferroni	26, 9, 14	line scans	mean ± SEM	$6x10^{-5}$ Bonferroni: 0.0046	F(2,46)=12.02983
dendritic bAP-evoked calcium-signals during the fluctuation of somatic membrane potential in theta range at RT	distal (100-175 µm)	p. 7, Fig.6b	One-way Repeated Measure ANOVA	5	cells		0.00655	F(1.32668,5.30671)= 17.01206, Greenhouse-Geisser corrected
	proximal (25-100 µm)			5			0.06229	F(2.27022,9.08089)= 3.71883, Greenhouse-Geisser corrected
magnitude of LTP; evoked by pairing uncaging-evoked EPSPs with synchronuous Aps from hyperpolarized or depolarized somatic membrane potentials	control	p. 8-9, Fig.6e	two sample Student t-test	8, 8	cells	individual measurements and relative mean ± SEM	0.01281	t(14)=2.85165
	ICa blocked			8, 8			0.99019	t(14)=0.01252
	no AP			6, 6			0.44719	t(10)=-0.7912
METHODS		**Page Figure**	**Test Used**	**n**		**reported data**	**p value**	**$F/t/R^2$ (DF)**
pipette capacitance vs. distance of recording site from soma		p.10	linear regression	22	pipettes	adjusted R^2	0.6956	F(21)=0.15758
access resistance vs. distance of recording site from soma				24	pipettes		0.04684	F(23)=4.43517

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SUPPLEMENTARY FIGURES		Figure	Test Used	n		reported data	p value	$F/t/R^2$ (DF)
AP amplitude with various series resistance at the monitoring pipette	16-50	Suppl. Figure 1c	linear regression	55	spikes	adjusted R^2; slope ± SEM	$<10^{-16}$	F(53)=4058.94508
	50-100			61			$<10^{-16}$	F(59)=1735.06523
	100-150			45			$<10^{-16}$	F(43)=515.09025
	150-200			22			$1.7x10^{-13}$	F(20)=299.48721
	200-270			64			$<10^{-16}$	F(62)=141.26535
Half width with various series resistance at the monitoring pipette	16-50			55			$<10^{-16}$	F(53)=2090.62421
	50-100			61			$<10^{-16}$	F(59)=489.69017
	100-150			45			$<10^{-16}$	F(43)=463.65775
	150-200			22			$<10^{-16}$	F(20)=768.0357
	200-270			64			$<10^{-16}$	F(62)=377.33314
ca-signals during theta at 36°C	distal (100-175 µm)	Suppl. Figure 4b	One-way Repeated Measure ANOVA	7	cells		$8.589x10^{-4}$	F(2.29657,13.7794)=11.82407 Greenhouse-Geisser corrected
	proximal (25-75 µm)			8			0.42108	F(2.09729,14.68105)=0.92924 Greenhouse-Geisser
effects of mglu activation on calcium signals in the presence of tertiapin-Q	45-90 µm	Suppl. Figure 6	Student t-test	9	line scans	mean ± SEM	0.80584	t(8)=-0.25408
	97-160 µm from soma			9			0.9129	t(8)=-0.11289
distal bAP waveform extended by X ms step vs. control bAP waveform	0.75 ms	Suppl. Figure 8b	Student t-test	9	nucl. patches	mean ± SEM	$1.5748x10^{-6}$	t(8)=12.49481
	2 ms			9			$2.6531x10^{-7}$	t(8)=15.73871
	3.75 ms			9			$1.1759x10^{-4}$	t(8)=6.95696
	5 ms			9			$8.4362x10^{-6}$	t(8)=10.00822
proximal bAP waveform extended by X ms step vs. control bAP waveform	0.75 ms			9			0.14128	t(8)=1.63219
	1 ms			3			0.28194	t(2)=1.45908
	2 ms			12			0.002	t(11)=4.02483
	3.75 ms			9			0.19235	t(8)=1.42367
	5 ms			12			0.31397	t(11)=-1.05518

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SUPPLEMENTARY FIGURES		Figure	Test Used	n		reported data	p value	F/t/R^2 (DF)
effect of Cs on AP half-width		Suppl. Figure 10a	paired t-test	7	cells	mean ± SEM	0.00286	t(6)=4.84588
distal ca-signals recovery		Suppl. Figure 12a	Exponential Decay Fit	11	cells	tau ± SEM	1.1375×10^{-8}	R^2=0.91523, F(4)= 18750.64774
proximal ca-signals recovery				15			3.4148×10^{-7}	R^2=0.89619, F(4)= 3420.54013
recovery from inactivation		Suppl. Figure 12b		17	nucl. patches		1.3948×10^{-6}	R^2=0.83735, F(4)=12014.34748
Input resistance during the control synaptic plasticity experiments	depol	Suppl. Figure 13c	Student t-test	8	cells	individual measurements and relative mean ± SEM	0.28386	t(7)=1.16057
	hyperpol			8			0.06645	t(7)=2.17171
Input resistance during the synaptic plasticity experiments with blocked ICa	depol			8			0.29935	t(7)=1.1208
	hyperpol			8			0.53905	t(7)=0.6457
Input resistance during the synaptic plasticity experiments without AP	depol			6			0.69738	t(5)=0.41204
	hyperpol			6			0.78222	t(5)=-0.29171