

Intrinsic physiological properties of central and edge TRN neurons

Somatosensory TRN						
	Burst Mode (-84 mV pre-stimulus V_m)			Tonic Mode (-74 mV pre-stimulus V_m)		
	Central Cells	Edge Cells	P values	Central Cells	Edge Cells	P values
Resting potential (mV)	-83 ± 0.3 (157)	-85 ± 0.4 (101)	<0.0001	n/a	n/a	n/a
Input resistance (MΩ)	157 ± 7.1 (42)	316 ± 40.5 (31)	<0.0001	278 ± 24.3 (33)	495 ± 59.5 (32)	<0.001
Membrane time constant (ms)	10.4 ± 0.34 (42)	13.3 ± 0.76 (31)	<0.0005	17.5 ± 1.16 (33)	20.5 ± 1.22 (32)	0.08
Input capacitance (pF)	70 ± 2.8 (42)	51 ± 3.2 (31)	<0.0001	67 ± 2.6 (33)	49 ± 2.8 (32)	<0.0001
Rheobase (pA)	61 ± 4.5 (25)	39 ± 4.1 (28)	<0.0005	24 ± 3.3 (26)	16 ± 2.4 (28)	<0.05
AP threshold (mV)	-58 ± 0.7 (25)	-56 ± 0.8 (28)	<0.05	-56 ± 0.7 (26)	-55 ± 0.7 (28)	0.4
AP amplitude (mV)	69 ± 1.6 (22)	72 ± 1.7 (23)	0.2	68 ± 1.5 (24)	69 ± 1.8 (28)	0.4
AP maximum rate of rise (mV/ms)	488 ± 17.8 (22)	481 ± 18.6 (23)	0.8	459 ± 16.4 (24)	434 ± 17.1 (28)	0.3
AP maximum rate of fall (mV/ms)	-400 ± 17.4 (22)	-336 ± 15.4 (23)	<0.01	-384 ± 14.1 (24)	-307 ± 15.8 (28)	<0.0005
AP half-width (ms)	0.22 ± 0.005 (22)	0.27 ± 0.010 (23)	<0.0005	0.23 ± 0.005 (24)	0.29 ± 0.013 (28)	<0.0001
Fast afterhyperpolarization (fast AHP) (mV)	-14.5 ± 0.71 (22)	-16.1 ± 0.82 (22)	0.2	-17.7 ± 0.78 (23)	-19.5 ± 0.72 (23)	0.09
Afterdepolarization (ADP) (mV)	<i>na</i>	<i>na</i>	<i>na</i>	-10.8 ± 0.64 (22)	-13.9 ± 0.80 (21)	<0.005
Slow afterhyperpolarization (slow AHP) (mV)	-18.2 ± 0.64 (22)	-20.1 ± 0.82 (22)	0.08	-12.9 ± 0.67 (20)	-17.4 ± 0.72 (21)	<0.0001
Offset burst # APs	9.6 ± 0.85 (34)	2.3 ± 0.51 (38)	<0.0001	<i>na</i>	<i>na</i>	<i>na</i>
Offset burst peak frequency (Hz)	364 ± 23.8 (34)	108 ± 23.2 (38)	<0.0001	<i>na</i>	<i>na</i>	<i>na</i>
Offset burst mean frequency (Hz)	243 ± 15.4 (34)	87 ± 18.6 (38)	<0.0001	<i>na</i>	<i>na</i>	<i>na</i>
Spike frequency adaptation (Last/First)	0.13 ± 0.01 (31)	0.23 ± 0.02 (42)	<0.0001	0.32 ± 0.02 (29)	0.47 ± 0.02 (40)	<0.0001

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Visual TRN						
	Burst Mode (-84 mV pre-stimulus V_m)			Tonic Mode (-74 mV pre-stimulus V_m)		
	Central Cells	Edge Cells	P value	Central Cells	Edge Cells	P value
Resting potential (mV)	-84 ± 0.3 (21)	-85 ± 0.4 (42)	0.47	<i>na</i>	<i>na</i>	<i>na</i>
Input resistance (M Ω)	173 ± 23.3 (14)	296 ± 26.8 (31)	<0.01	<i>na</i>	<i>na</i>	<i>na</i>
Membrane time constant (ms)	10.9 ± 0.75 (14)	12.4 ± 0.53 (31)	0.12	<i>na</i>	<i>na</i>	<i>na</i>
Input capacitance (pF)	70 ± 4.3 (14)	51 ± 5.7 (31)	<0.05	<i>na</i>	<i>na</i>	<i>na</i>
Offset burst # APs	5.8 ± 0.76 (19)	0.9 ± 0.27 (33)	<0.0001	<i>na</i>	<i>na</i>	<i>na</i>
Offset burst peak frequency (Hz)	207 ± 23.1 (19)	32 ± 11.3 (33)	<0.0001	<i>na</i>	<i>na</i>	<i>na</i>
Offset burst mean frequency (Hz)	107 ± 8.0 (19)	25 ± 13.7 (33)	<0.0001	<i>na</i>	<i>na</i>	<i>na</i>