

			TC cell with stable membrane potential (Fig. 5)	TC cell template	Pacemaking TC cell (Fig. 7)	NRT cell (Fig. 7)
	variable	unit				
	number of compartments		1	1	1	1
	number of segments	nseg	1	1	1	1
	diameter	diam μm	96	96	96	70
	length	L μm	96	96	96	64.86
	membrane capacitance	cm $\mu\text{F} / \text{cm}^2$	1	1	1	1
	axial resistance	Ra ohm-cm	100	100	100	100
	area	μm^2	28,953	28,953	28,953	14,263
	temperature	celsius $^{\circ}\text{C}$	36	36	36	36
	intial membrane voltage	v_init mV	-60	-70	-70	-70
pas	Passive membrane channel					
	reversal potential leak current	e_pas mV	-44	-70	-70	-90
	specific membrane conductance	g_pas S / cm^2	1e-5	1e-5	1e-5	5e-5
kleak	Leak potassium current					
	reversal potential potassium channel	Erev_kleak mV	-100	-100	-100	
	maximum conductance	kl.gmax μS	0.003	0.004	0.005	
hh2	Hippocampal HH channels					
	reversal potential potassium channel	ek mV	-100	-100	-100	-100
	reversal potential sodium channel	ena mV	50	50	50	50
	threshold adjustment (Traub & Miles 1991)	vtraub_hh2 mV	-25	-25	-25	-55
	specific membrane conductance	gkbar_hh2 S / cm^2	0.01	0.01	0.01	0.02
	specific membrane conductance	gnabar_hh2 S / cm^2	0.09	0.09	0.09	0.2
it	Low threshold calcium current (TC)					
	specific membrane conductance	gcabar_it S / cm^2	0.002	0.002	0.002	
	shift for screening charge	shift_it mV	2	2	2	
	calcium concentration inside	cai mM	2.4e-4	2.4e-4	2.4e-4	
	calcium concentration outside	cao mM	2	2	2	
	reversal potential calcium channel	eca mV	120	120	120	

it2	Low threshold calcium current (RE)					
	specific membrane conductance	gcabar_it2	S / cm ²			0.003
	shift for screening charge	shift_it2	mV			2
	kinetic adjustment to 36°C using Q10	qm_it2				2.5
	kinetic adjustment to 36°C using Q10	qh_it2				2.5
	calcium concentration inside	cai	mM			2.4e-4
	calcium concentration outside	cao	mM			2
	reversal potential calcium channel	eca	mV			120
ih	Anomalous rectifier channel					
	reversal potential Ih channel	eh	mV	-40	-40	-40
	number of binding sites of ca++	nca_iar		4	4	4
	inverse of time constant	k2_iar	1 / ms	0.0004	0.0004	0.0004
	half-activation of calcium dependence	cac_iar	mM	0.002	0.002	0.002
	number of binding sites on Ih channels	nexp_iar		1	1	1
	backward binding on Ih	k4_iar	1 / ms	0.001	0.001	0.001
	half-activation of CB protein dependence	Pc_iar		0.01	0.01	0.01
	augmentation of conductance with Ca++	ginc_iar		1	2	1
	specific membrane conductance	ghbar_iar	S / cm ²	1e-5	2e-5	1e-5
	shift of Ih voltage-dependence	shift_iar	mV	0	0	0
cad	Fast mechanism for submembranal Ca++ concentration (cai)					
	depth of shell	depth_cad	µm	1	1	1
	rate of calcium removal	taur_cad	ms	5	5	5
	equilibrium concentration of calcium	cainf_cad	mM	2.4e-4	2.4e-4	2.4e-4
	parameter specific to the pump	kt_cad	mM / ms	0	0	0
	parameter specific to the pump	kd_cad	mM	0	0	0