Supporting Information

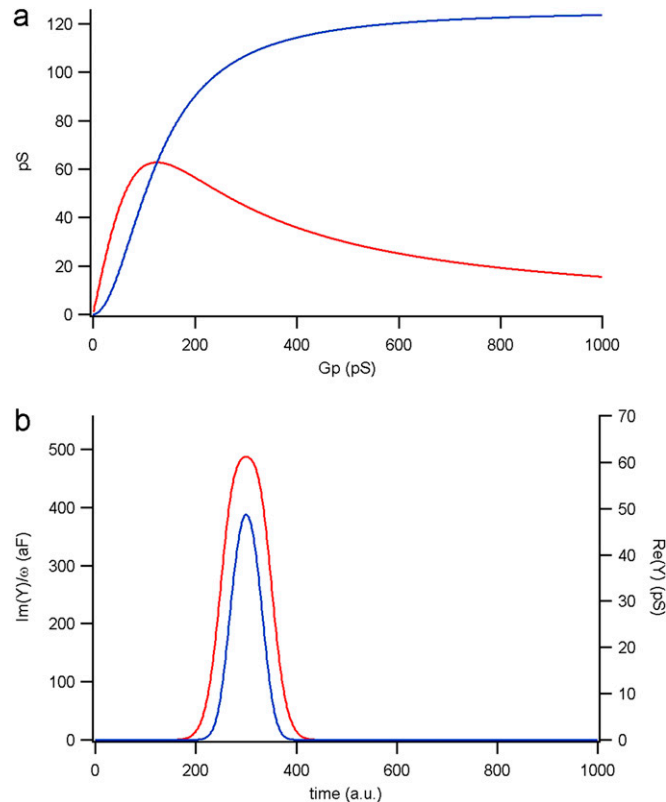## Segovia et al. 10.1073/pnas.1014070107

Fig. S1. Simulation of the changes in the imaginary [Y(Im)] and real [Y(Re)] parts of the patch admittance during the fusion of a vesicle of 1 fF (average vesicle capacitance for mouse chromaffin granules). (A) Changes in Y(Im) and Y(Re) with increasing fusion-pore conductance (Gp). Changes in Y(Re) (red) are more prominent than changes in Y(Im) (blue) at Gp values >200 pS. As Gp grows and the circuit becomes consequently less resistive, changes in admittance appear only in Y(Im), reaching the maximum value over 1 nS. (B) Simulation of a transient vesicle fusion in a Gaussian form with maximum Gp of 100 pS following admittance equations (1). Notice that when the fusion pore is small, most of the projection appears on the Y(Re), and very little projection is seen on Y(Im). The noise level of our recordings is 0.2 fF. Simulation conditions: frequency = 20,000 Hz; voltage 50 mV rms.

1. Lollike K, Borregaard N, Lindau M (1998) Capacitance flickers and pseudoflickers of small granules, measured in the cell-attached configuration. *Biophys J* 75:53–59.

Table S1. Patch amperometry parameters measured in WT, Syt7 KO, and Syt7 C2B-domain KI chromaffin cells

Parameter	WT	SEM	KO	SEM	C2B KI	SEM
Step (fF)	1.37	0.14	1.32	0.13	1.11	0.08
Delay CA (ms)	10.88	1.85	10.36	2.19	9.13	1.69
Peak (pA)	27.47	3.87	42.93	9.68	25.81	6.52
T 1/2 (ms)	87.13	9.91	99.41	12.35	88.28	10.51
Spike RT (pA/ms)	20.02	2.03	19.15	1.75	21.92	2.45
Q (pC)	3.24	0.49	3.81*	0.44	2.72	0.35
Number of events	209		183		272	
Number of cells	20		16		20	
Number of cultures	6		4		4	

Averages are expressed as the average value measured for each cell to prevent the bias introduced by measuring different numbers of events in individual cells.
*$P < 0.05$.