SUPPORTING INFORMATION

Binding of a Monoclonal Antibody to the Phospholamban Cytoplasmic Domain Interferes with the Channel Activity of Phospholamban Reconstituted in a Tethered Bilayer Lipid Membrane

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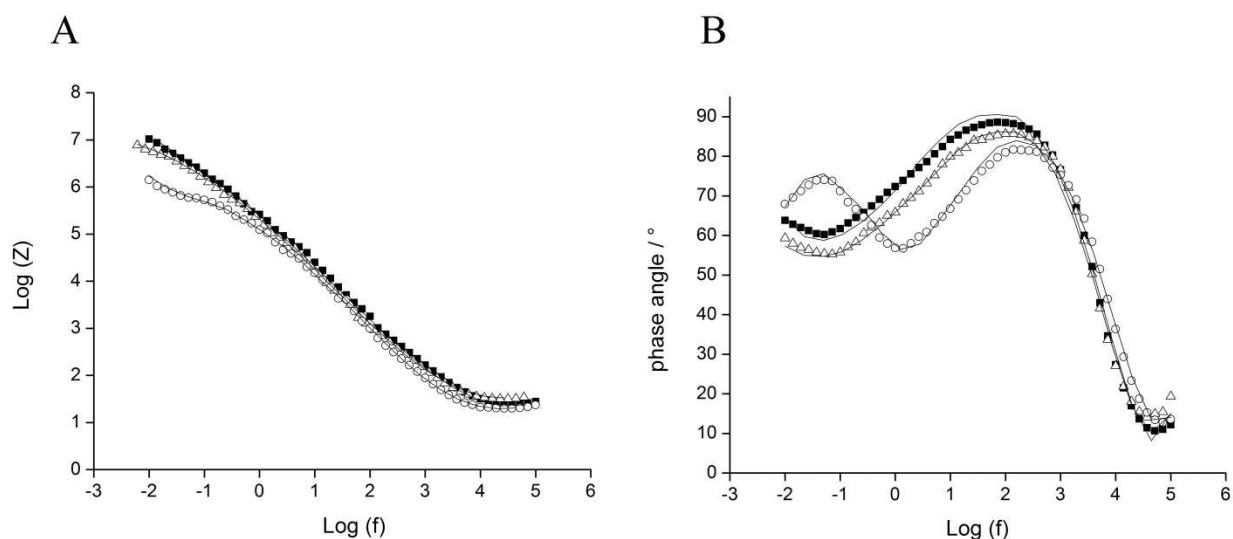Phone: +39-055-4573239; Fax: +39-055-4573142; E-mail: francesco.tadini@unifi.it

A

B

Figure S1. Impedance spectra were obtained by plotting log(Z) (logarithm of impedance) versus log(f) (logarithm of frequency) (A), and phase angle versus log(f) (B) for a tBLM containing no PLN (filled squares), and following PLN reconstitution in the absence (empty circles) or presence of AbPLN (empty triangles) at an applied electrode potentials of -0.1 V (versus Ag/AgCl/0.1M KCl). The solid lines represent fitting curves of the EIS spectra by the equivalent circuit model shown in Fig. 1 (main text). The model parameters are reported in Table S1.

	CPE ($\mu F \cdot cm^{-2} s^{(\alpha-1)}$)	α	CPE_{pores} ($\mu F \cdot cm^{-2} s^{(\alpha_{pores}-1)}$)	α_{pores}	R_{pores} ($k\Omega \cdot cm^2$)
tBLM	0.63 ± 0.05	0.98 ± 0.02	0.93 ± 0.1	0.54 ± 0.02	193 ± 15
tBLM + PLN (overnight incubation)	0.67 ± 0.05	0.99 ± 0.02	4.12 ± 0.5	0.70 ± 0.02	28 ± 5
tBLM + PLN + AbPLN	0.66 ± 0.05	0.98 ± 0.02	2.37 ± 0.05	0.73 ± 0.02	201 ± 10

Table S1. Model parameters obtained by fitting the equivalent circuit shown in Fig. 1 (main text) to the EIS spectra of Fig. S1 (A and B). The error gives the deviation from the fit.
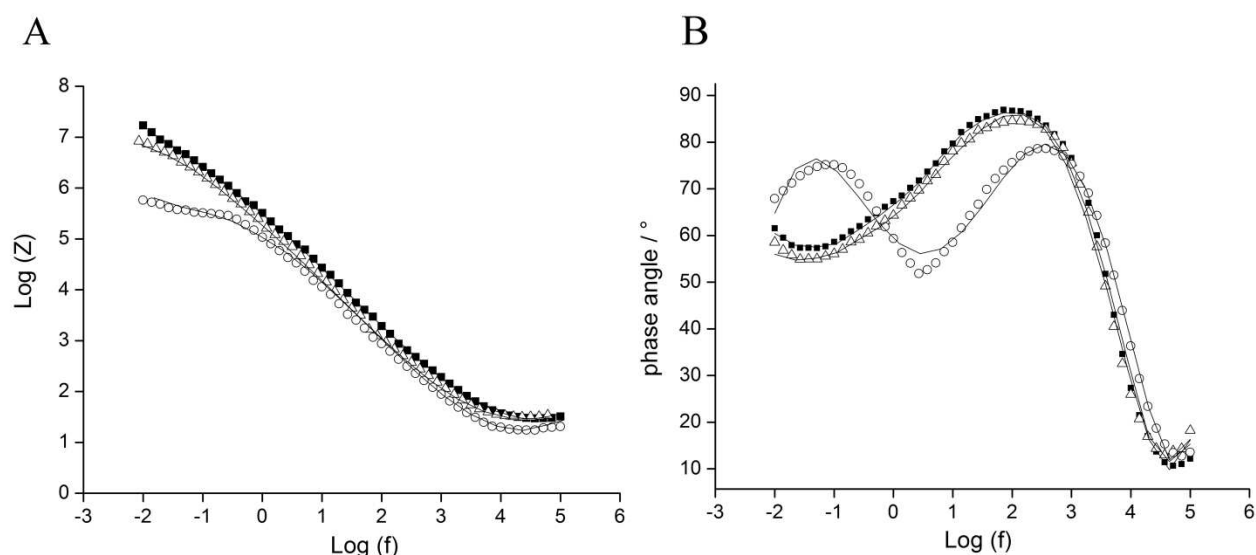
A

B

Figure S2. Impedance spectra were obtained by plotting log(Z) (logarithm of impedance) versus

log(f) (logarithm of frequency) (A), and phase angle versus log(f) (B) for a tBLM containing no

PLN (filled squares), and following PLN reconstitution in the absence (empty circles) or presence

of AbPLN (empty triangles) at an applied electrode potentials of 0.0 V (versus Ag/AgCl/0.1M KCl).

The solid lines represent fitting curves of the EIS spectra by the equivalent circuit model shown in

Fig. 1 (main text). The model parameters are reported in Table S2.

	CPE $(\mu F{\cdot}cm^{-2}s^{(\alpha-1)})$	α	CPE_{pores} $(\mu F{\cdot}cm^{-2}s^{(\alpha_{pores}-1)})$	α_{pores}	R_{pores} $(k\Omega{\cdot}cm^2)$
tBLM	0.61 ± 0.05	0.98 ± 0.02	0.93 ± 0.1	0.51 ± 0.02	204 ± 15
tBLM + PLN (overnight incubation)	0.63 ± 0.05	0.99 ± 0.02	3.82 ± 0.5	0.75 ± 0.02	35 ± 5
tBLM + PLN + AbPLN	0.65 ± 0.05	0.98 ± 0.02	1.94 ± 0.05	0.63 ± 0.02	187 ± 10

Table S2. Model parameters obtained by fitting the equivalent circuit shown in Fig. 1 (main text) to

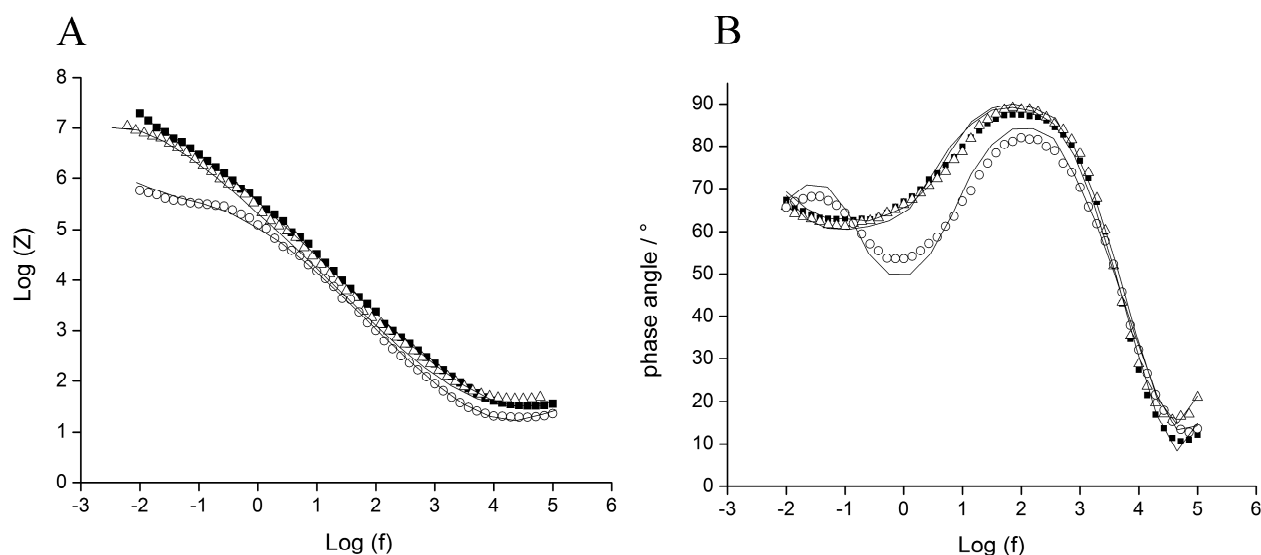the EIS spectra of Fig. S2 (A and B). The error gives the deviation from the fit.

Figure S3. Impedance spectra were obtained by plotting log(Z) (logarithm of impedance) versus log(f) (logarithm of frequency) (A), and phase angle versus log(f) (B) for a tBLM containing no PLN (filled squares), and following PLN reconstitution in the absence (empty circles) or presence of AbPLN (empty triangles) at an applied electrode potentials of 0.1 V (versus Ag/AgCl/0.1M KCl). The solid lines represent fitting curves of the EIS spectra by the equivalent circuit model shown in Fig. 1 (main text). The model parameters are reported in Table S3.

	CPE $(\mu F \cdot cm^{-2} s^{(\alpha-1)})$	α	CPE_{pores} $(\mu F \cdot cm^{-2} s^{(\alpha_{pores}-1)})$	α_{pores}	R_{pores} $(k\Omega \cdot cm^2)$
tBLM	0.63 ± 0.05	0.99 ± 0.02	0.96 ± 0.1	0.52 ± 0.02	208 ± 15
tBLM + PLN (overnight incubation)	0.63 ± 0.05	0.99 ± 0.02	4.22 ± 0.5	0.77 ± 0.02	42 ± 5
tBLM + PLN + AbPLN	0.67 ± 0.05	0.98 ± 0.02	1.64 ± 0.05	0.65 ± 0.02	191 ± 15

Table S3. Model parameters obtained by fitting the equivalent circuit shown in Fig. 1 (main text) to the EIS spectra of Fig. S3 (A and B). The error gives the deviation from the fit.