

[10.1071/FP22106](https://doi.org/10.1071/FP22106)

*Functional Plant Biology*

### Supplementary Material

#### **Certain calcium channel inhibitors exhibit a number of secondary effects on the physiological properties in *Nitellopsis obtusa*: a voltage clamp approach**

Vilmantas Pupkis<sup>A,\*</sup>, Indre Lapeikaite<sup>A</sup>, Julius Kavaliauskas<sup>A</sup>, Kazimierz Trębacz<sup>B</sup>, and Vilma Kisnieriene<sup>A</sup>

<sup>A</sup>Department of Neurobiology and Biophysics, Institute of Biosciences, Life Sciences Center, Vilnius University, 7 Saulėtekio Avenue, 10257 Vilnius, Lithuania.

<sup>B</sup>Department of Plant Physiology and Biophysics, Institute of Biological Sciences, Faculty of Biology and Biotechnology, Maria Curie-Sklodowska University, 19 Akademicka, 20-033 Lublin, Poland.

\*Correspondence to: Vilmantas Pupkis Department of Neurobiology and Biophysics, Institute of Biosciences, Life Sciences Center, Vilnius University, 7 Saulėtekio Avenue, 10257 Vilnius, Lithuania Email: vilmantas.pupkis@gmc.vu.lt

Supplementary Table S1. Average values ( $\pm$  SD) of the activation duration  $t_{act}$  and the inactivation duration  $t_{inact}$  of the  $I_{Cl}$  current at various clamped membrane potentials during *Nitellopsis obtusa* electrical excitation in the control solution (APW) and after exposure of the same internodal cell to 0.3 mM verapamil solution. Corresponding p values (in bold when  $p<0.05$ ) of the Wilcoxon signed-rank test are also included. n=10 cells.

Voltage (mV)	$t_{act}$ (s)			$t_{inact}$ (s)		
	APW	0.3 mM verapamil	p value	APW	0.3 mM verapamil	p value
-100	0.9 $\pm$ 0.1	1.5 $\pm$ 0.3	<b>0.031</b>	1.3 $\pm$ 0.2	3.9 $\pm$ 1.5	<b>0.031</b>
-80	0.9 $\pm$ 0.2	1.7 $\pm$ 0.5	<b>0.016</b>	1.7 $\pm$ 0.4	5.3 $\pm$ 2.7	<b>0.016</b>
-60	1 $\pm$ 0.3	2.1 $\pm$ 1.1	<b>0.004</b>	1.9 $\pm$ 0.6	5.8 $\pm$ 2.3	<b>0.008</b>
-40	1 $\pm$ 0.3	2.2 $\pm$ 0.8	<b>0.004</b>	2.1 $\pm$ 0.7	8.1 $\pm$ 6.1	<b>0.014</b>
-20	1 $\pm$ 0.2	2.4 $\pm$ 0.8	<b>0.008</b>	2.1 $\pm$ 0.7	8.7 $\pm$ 6.6	<b>0.016</b>
0	1.2 $\pm$ 0.4	2.4 $\pm$ 0.8	<b>0.023</b>	2.3 $\pm$ 0.8	7.1 $\pm$ 2.7	<b>0.016</b>
20	1.1 $\pm$ 0.2	2.5 $\pm$ 0.7	<b>0.004</b>	2.4 $\pm$ 0.8	7.8 $\pm$ 2.7	<b>0.008</b>
40	1.2 $\pm$ 0.3	2.5 $\pm$ 0.9	<b>0.016</b>	2.3 $\pm$ 0.7	7.3 $\pm$ 2.1	0.063

Supplementary Table S2. Average values ( $\pm$  SD) of the activation duration  $t_{act}$  and the inactivation duration  $t_{inact}$  of the  $I_{Cl}$  current at various clamped membrane potentials during *Nitellopsis obtusa* electrical excitation in the control solution (APW) and after exposure of the same internodal cell to 0.075 mM NED-19 solution. Corresponding p values (in bold when  $p < 0.05$ ) of the Wilcoxon signed-rank test are also included. n=8 cells.

Voltage (mV)	$t_{act}$ (s)			$t_{inact}$ (s)		
	APW	0.075 mM NED-19	p value	APW	0.075 mM NED-19	p value
-80	1 $\pm$ 0.1	1.1 $\pm$ 0.2	0.156	1.5 $\pm$ 0.4	2.1 $\pm$ 0.6	<b>0.031</b>
-60	1 $\pm$ 0.1	1.3 $\pm$ 0.2	<b>0.016</b>	1.7 $\pm$ 0.4	2.3 $\pm$ 0.4	<b>0.016</b>
-40	1 $\pm$ 0.1	1.4 $\pm$ 0.2	<b>0.008</b>	1.8 $\pm$ 0.4	2.7 $\pm$ 0.5	<b>0.008</b>
-20	1.1 $\pm$ 0.1	1.4 $\pm$ 0.2	<b>0.008</b>	2.1 $\pm$ 0.5	3 $\pm$ 0.4	<b>0.016</b>
0	1.1 $\pm$ 0.2	1.5 $\pm$ 0.2	<b>0.008</b>	2.7 $\pm$ 0.8	4 $\pm$ 1.2	<b>0.039</b>
20	1.1 $\pm$ 0.1	1.5 $\pm$ 0.2	<b>0.014</b>	3 $\pm$ 1.3	4.6 $\pm$ 2	0.055
40	1.3 $\pm$ 0.2	1.8 $\pm$ 0.3	<b>0.008</b>	3.6 $\pm$ 1.7	4.5 $\pm$ 2.8	0.063