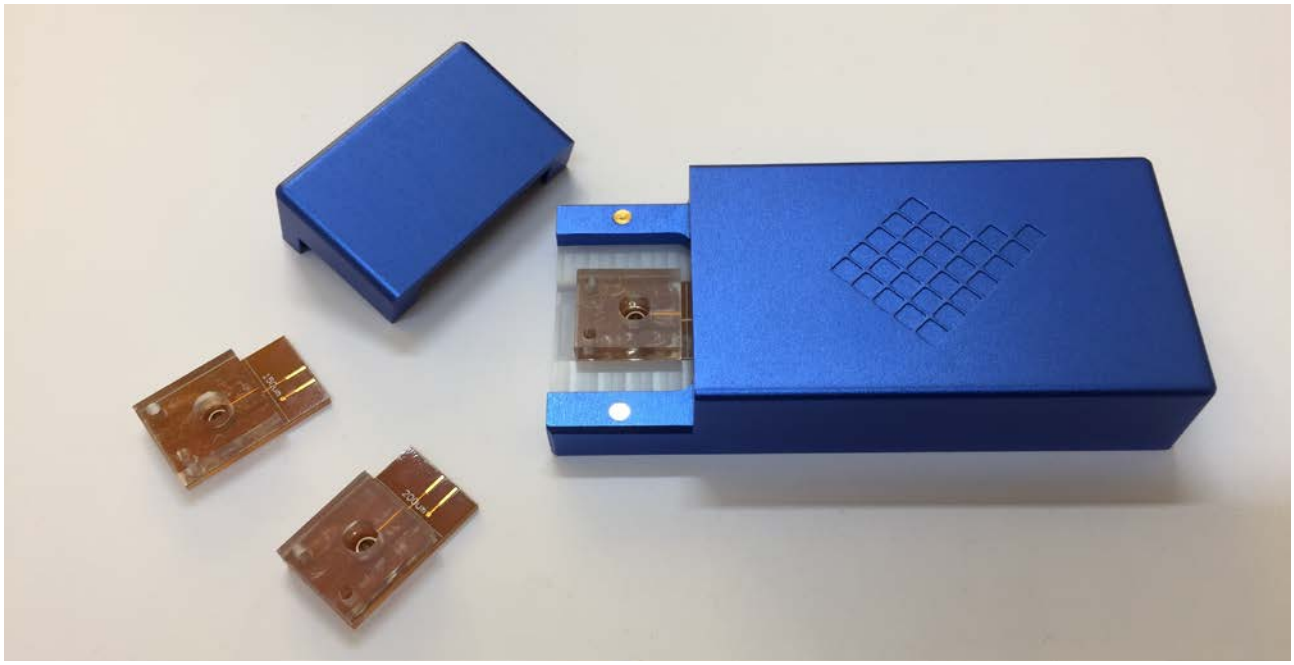
Quick Guide

elements
enablingtechnologies for Life Science

BLM chip: how to make lipid bilayer experiments



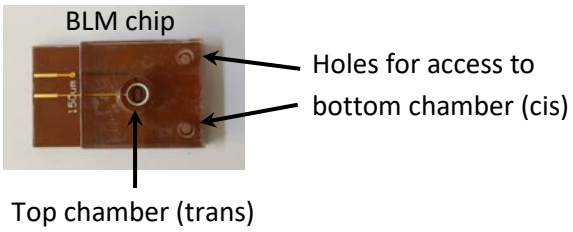
This Quick Guide shows how to perform lipid bilayer experiments using the BLM chip and the Nanopore Reader.

The BLM chip is available with 3 hole sizes. The table below indicates the typical BLM capacitance.

100 µm: 20 – 40 pF

150 µm: 35 – 90 pF

200 µm: 45 – 140 pF



Step by step experiment:

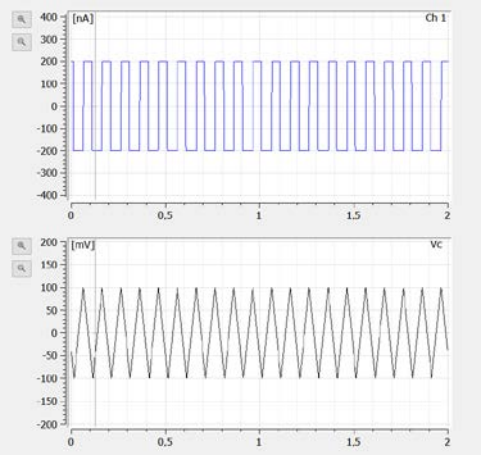
Step 1: chlorinate for 10 minutes the Ag electrodes on the BLM chip by adding 30 µl of bleach on the bottom chamber and 50 µl on the top chamber. At the end, rinse with double-distilled water.

Step 2: insert the chip into the reader. Fill the BLM chip with Buffer solution (i.e. KCl 1M) by adding 30 µl on the bottom chamber and 50 µl on the top chamber.

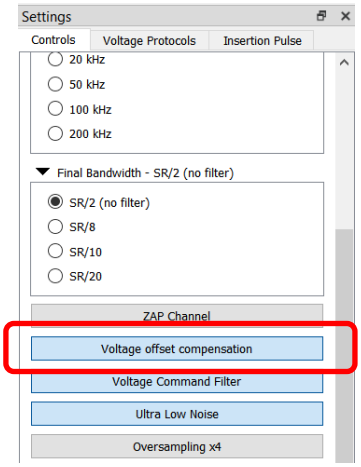
Step 3: apply the triangular wave input signal (protocol 1) and check the proper filling of the hole.

ELEMENTS srl - Viale G. Marconi 438 - 47521 Cesena (FC) - ITALY - C.F/P.IVA/VAT 04113900403
tel/fax: +39 0547 482983 e-mail: info@elements-ic.com www.elements-ic.com

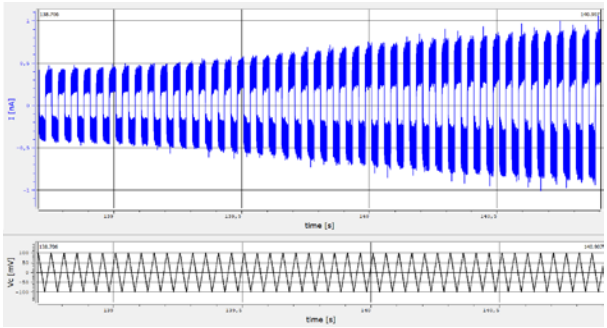
A full scale square wave (due to amplifier saturation) should be seen.



Step 4: compensate electrode offsets clicking on the “Voltage offset compensation” button



Step 5: start painting lipids to form a BLM. An increasing square wave current signal should be seen.



Step 6: apply the desired input signal (see the different voltage protocols in the EDR 3 Manual) and add the protein under study.

For a more accurate guide on BLM experimentsand tips, please have a look at the BLMkit Quick guide in the “BLM kit → How to” section of our website