


Methods, IOCBC, Einsle

<p><b>Planar Lipid Bilayer Workstation</b></p> <p><i>Electrophysiology</i></p>	<p>Model:</p> <p>Unit and Room:</p> <p>Responsible:</p> <p>Further information:</p>	<p><i>Warner Planar Lipid Bilayer Workstation</i></p> <p><i>Biochemistry, 10<sup>th</sup> floor, R.1002</i></p> <p><i>Dr. Susana Andrade, 203 8719</i></p> <p><i><a href="http://portal.uni-freiburg.de/biochemie/equipment">http://portal.uni-freiburg.de/biochemie/equipment</a></i></p>
<p>Short Description:</p> <p>The Planar Lipid Bilayer Workstation allows for pico- or nano-scale charge current measurements across an artificial lipid membrane through reconstituted, ion-conducting single channels. Currents are measured via silver electrodes, digitized and amplified. The entire setup is encased in a Faraday cage for the shielding from electromagnetic and mechanical interference and contains mechanisms for stirring and changing solutions, signal processing and data analysis.</p>	<p>Picture of the Equipment</p> 	
<p>Available Experiments/Techniques:</p> <p>Painting of lipid bilayers, reconstitution of membrane proteins; current measurements; voltage clamp experiments</p>		
<p>Special Equipment:</p> <p>Faraday cage, active vibration-isolation table, membrane support (cups and chambers), dual-capacity stirrer, low electric noise lamp, microscope, perfusion equipment, amplifier, signal filter, oscilloscope and analogue-to-digital signal converter.</p>		
<p>Measurements on the equipment are currently done by:</p>	<p><input type="checkbox"/> Students</p> <p><input type="checkbox"/> Students after Introduction</p> <p><input checked="" type="checkbox"/> Students after extensive training</p> <p><input checked="" type="checkbox"/> Trained scientific service personal</p>	
<p>Recent Publications, where this instrument was important (optional): Give citation</p>		
<p>Typical problems that may be solved with this instrument:</p>	<p><i>- measurement of electric currents across lipid membranes.</i></p> <p><i>- determination of ion transport rates through membrane proteins</i></p> <p><i>- measurement of transport activity dependent on lipid membrane composition</i></p>	