

MECA 4 OPTO-INV kit

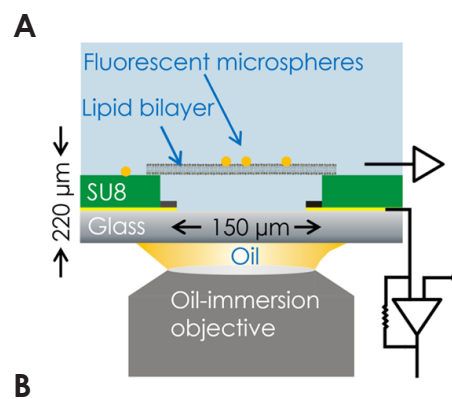
Orbit mini

Combining optical and electrical readout

The MECA 4 OPTO-technology enables simultaneous optical and electrical recordings in free-standing artificial lipid bilayers using the Orbit mini bilayer recording system. The MECA 4 OPTO-INV kit allows the positioning of MECA 4 OPTO-INV chips over an inverse microscope's objective, while ensuring electrical connectivity of the chip with the Orbit mini's amplifier. Each MECA 4 OPTO-INV chip features four cylindrical cavities within a glass substrate, which can be spanned by artificial lipid bilayers. Ag/AgCl electrodes at the cavity bottoms enable application of voltage protocols and current signal readouts, while simultaneously providing a translucent path for parallel optical signal readouts. For example, to assess optical integrity fluorescent microspheres (500 nm in diameter) can be introduced to lipid bilayers generated on the MECA 4 OPTO-INV chip, allowing easy focus assessment across the entire bilayer (as shown on the right).



Contact us today



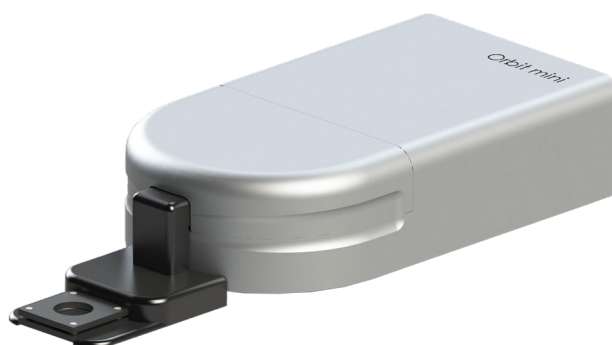
A Schematic of the experimental setup for the detection of fluorescent microspheres. **B** The MECA 4 OPTO-INV chip placed above the objective of an inverse microscope. Image of the microspheres on the lipid bilayer - all spheres are in focus (insert).

Orbit Mini MECA 4 OPTO-INV kit:

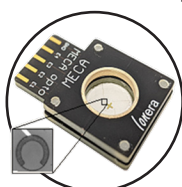
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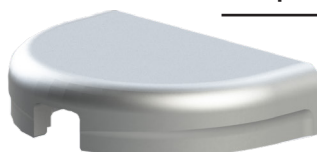
The MECA 4 OPTO-INV kit is comprised of an adapted Faraday shield for Nanion's Orbit mini bilayer recording station and a tailor-made holder for Ionera's MECA 4 OPTO-INV chips. The holder allows for the positioning of the recording chips over the objective of an inverse microscope while enabling the electrical connection between the chips and the amplifier inside the Orbit mini.



MECA 4 OPTO-INV Chip



Adapted Faraday Shield



MECA OPTO-holder



"The MECA OPTO system easily coupled to my inverted microscopes and worked with a wide range of objectives. The MECA OPTO-holder provides traditional convenient bilayer formation and channel insertion with good electrical noise characteristics while markings make locating microwells quick and easy. Simultaneous optical and electrical interrogation of the microwell aperture accelerates lipid bilayer validation for ion channel measurements."

Prof. Dan Burden, Professor Chemistry department, Wheaton College