



400 KONTIO



# MP-SPR NAVI™ 400 KONTIO



Semi-automated MP-SPR Navi™ 400 KONTIO is specially designed to measure cell adhesion and cell-based interactions in physiologically relevant conditions. The instrument is compatible with complex cell culture media and other crude samples.

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# MP-SPR NAVI™ 400 KONTIO SPECIFICATIONS

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Measurement principle</b>   | Real-time and label-free Multi-Parametric Surface Plasmon Resonance (MP-SPR) is based on a true goniometric SPR arrangement with a rotating detector.<br>Exceptionally <b>wide angular range</b> 40-78° is measured, real angular resolution 0.001°.                                                                                                                                                                                                                                                            |
| <b>Liquid handling</b>         | Controlled buffer flow conditions with 4 channel peristaltic pump.<br>Flow rate range from 10 µl/min up to 400 µl/min. <b>4 flow channels</b> and manual sample injector.<br>Instrument can be later upgraded with dedicated autosampler, effectively making it 410A KAURIS.                                                                                                                                                                                                                                    |
| <b>Sample consumption</b>      | Typical required sample volume 200-500 µl. Sample volume can be further varied by changing sample loops.                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Wavelength of light</b>     | Standard <b>670 nm and 785nm lasers</b> in all four flow channels.<br>Other wavelengths available on request.<br>Additional wavelengths enable measurement of thickness and refractive index simultaneously.                                                                                                                                                                                                                                                                                                    |
| <b>Refractive index range</b>  | 1.00-1.40 (measurement bulk environment) which can be extended with additional wavelengths.<br>Layers that MP-SPR can measure may have much higher RI, such as diamond like carbon (2.7) and inorganic crystals. MP-SPR determines also complex refractive index.                                                                                                                                                                                                                                               |
| <b>Media</b>                   | One scan encompasses both environments: <b>gas and liquid</b> .<br>Measure not only in water based liquids but also in some <b>organic liquids</b> such as ethanol and acetonitrile.<br><b>PureKinetics™</b> enables liquid composition correction between running buffer and the sample (bulk effect).                                                                                                                                                                                                         |
| <b>Mode of operation</b>       | Angular Scanning mode, or "MP-SPR mode": scanning across a range of angles providing complete SPR curve and multiple parameters. Several types of sensograms can be extracted from the recorded SPR curves, such as PureKinetics™.<br>Sampling rate depends selected angular range and resolution, typically less than 2 seconds.<br>Fixed Angle mode, or "traditional SPR mode": measurement from single angle, providing time – intensity sensogram. Mode for fast kinetic studies - sampling rate from 1 ms. |
| <b>Measurement range</b>       | Kinetics: $k_a = 10^3 - 10^8 \text{ 1/(M*s)}$ , $k_d = 10^{-7} - 0.1 \text{ 1/s}$ , $K_D = 10^{-3} - 10^{-12} \text{ M}$<br>Thickness from Ångströms to micrometers (true range depends on refractive index of the material).                                                                                                                                                                                                                                                                                   |
| <b>Sensitivity</b>             | Smallest detected molecule: In gas: Hydrogen (2 Da); in liquid: small molecules <100 Daltons                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Noise</b>                   | Short-term noise 0.3 µRIU, Baseline drift (long term) < 1µRIU/min.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Temperature</b>             | Measurement temperature range from 15 – 45 °C (7° below to 20°C above ambient).                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Prism</b>                   | Prism with <b>elastomer</b> enables quick sensor exchange and further analysis of sample with other methods.                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Flow cells</b>              | Standard: PDMS material flow cell with a volume of 1 µl/channel.<br>Optional flow cells: SPR-321-EC: <b>Electrochemical</b> flow cell, SPR343-C: <b>Cell</b> flow cell or request custom made flow cell.                                                                                                                                                                                                                                                                                                        |
| <b>Sensors/Substrates</b>      | Wide range of <b>sensor surfaces</b> is available, such as metals (Au, Ag, Cu, Pt etc.), other inorganics (SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> etc.) or functionalized surfaces (CMD, Ni <sup>2+</sup> etc.). The sensor holder allows for easy <i>ex-situ</i> depositions on sensors (e.g. spin coating).<br>If you cannot find what you are looking for, request a custom made surface!                                                                                      |
| <b>Software</b>                | Unlimited MP-SPR Navi™ Control and DataViewer software.<br>Export data easily to Excel or use our dedicated analyzing tools.<br>Optional: LayerSolver™ fitting tool for layer characterization and/or TraceDrawer™ software for kinetic analysis.                                                                                                                                                                                                                                                               |
| <b>Maintenance</b>             | No mandatory service contract required. Fluidic parts are easily exchanged.<br>Annual maintenance contract (AMC) recommended.                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Computer requirements</b>   | Win 10 or Win 11, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data)                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Dimensions &amp; Weight</b> | W 33 x H 42 x D 39 cm (13" x 17" x 15"), 11 kg (24 lbs)                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Power requirements</b>      | 100-240V, 50/60Hz, max. 40W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

Specifications are subject to change without prior notice.

Information in this catalogue is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions.



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