

4-channel MP-SPR Navi[™] 420A ILVES for molecular interaction studies is the fastest member of the MP-SPR family! KineticTitration function makes it an ideal solution for challenging-to-regenerate-surfaces, or in case you just want to obtain your results faster!

Excellence in Surface Plasmon Resonance

BioNavis

PureKinetics[™] (pat.pend.) uniquely eliminates bulk effect, extends life span of functionalized sensors and together with minimal dead volumes provides high quality kinetic data for small molecules as well as proteins in purified and crude samples, including 100% serum.





www.bionavis.com/420A



MP-SPR Navi[™] 420A ILVES specifications

Messurement principle arrangement with a rotating baser. Liquid handling Automated 96-well plate liquid handling for unattended runs. 4 flow channels. Configure channels one-by-one lindividually or in series. Dual loop injection mode enabling e.g., flow channels one-by-one lindividually or in series. Dual loop injection mode enabling e.g., flow channels. Sample consumption Struction integrated degasser. How rate range from 1 µ/min up to 1000 µ/min. Wavelength of light Standard 670 nm for all channels. Refractive index range Lighers hand Handling for unattended runs. Refractive index range Lighers handling for moment ligher for some princip information sample volume 100 µ.d. Minimum injected princip in the sample consumption. Minimum sample volume 100 µ.d. Minimum injected princip in the sample consumption. Media Full scan encompasses both environments gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvers. PureKinetics" Full scan encompasses both environments gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvers. Media Full scan encompasses both environments gas and liquid. Robust fluidics allows for water based fluidis but also for some organic solvers. Mode of operation Angular Scanning mode. Mr-SPR mode' - scanning acoss a range of angles providing full SPR curve and multiple angle providing full SPR curve and multiple angle providing full SPR curve and multiple angle angle. providi		Real-time and label-free Multi-Parametric Surface Plasmon Resonance (MP-SPR) is based on a true goniometric SPR
Liquid handling4 flow channels. Configure channels one-by-one (individually or in series. Dual loop injection mode enabling e.g., fast kinet/Citration experiments. and experiments in multiple buffers. Controlled buffer flow conditions with precise syringe pumps and integrated degasser. Flow rate range from 1 µl/min up to 1000 µl/min.Sample consumptionPartial loop injections enabling minized sample consumption. Minimum sample volume 100 µl. Minimum single et dimenses of the sample et dimenses of the sample et dimense of the sample et dimenses of the sample et dimense of the sample	Measurement principle	
Sample consumptionvolume 50 µl. Special PureSample" function removes diluted sample entering measurement channel.Wavelength of lightStandard 670 nm for all channels.Refractive index range1.00-1.40 (measurement bulk environment) Layers that MP-SPR can measure can have much higher RI such as diamond like carbon (2.7) and inorganic crystals.MediaFull scan encompasses both environments: gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvents.PureKinetics"Full scan encompasses both environments: gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvents.MediaFull scan encompasses both environments: gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvents.PureKinetics"Full scan encompasses both environments: gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvents.MediaFureKinetics" is a unique feature that enables measurements in 100% Serum and allows having high refractive index difference between running the buffer and the sample. Thus, while injected sample has 5%. DMSO to ensure solubility of the sample, the running buffer and true sample. Thus, while injected sample has 5%. DMSO to significatly reduced contact time of surface proteins with DMSO extends the life span of the functionalized sensors and thus saves consumable costs.Mode of operationKinetics: kg = 10 ² - 11/(M*S), kg = 10 ² - 0 - 10 ⁻² M Thickness from Angetröms to micrometers (true range depends on refractive index of the material).SensitivityIn gas: from 2 Datons (Hydrogen) - in liquid: <100 Datons	Liquid handling	4 flow channels . Configure channels one-by-one (individually) or in series. Dual loop injection mode enabling e.g. fast KineticTitration experiments, and experiments in multiple buffers. Controlled buffer flow conditions with precise
Refractive index range 1.00-1.40 (measurement bulk environment) Layers that MP-SPR can measure can have much higher RI such as diamond like carbon (2.7) and inorganic crystals. Media Full scan encompasses both environments gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvents. PureKinetics" is a unique feature that enables measurements in 100% Serum and allows having high refractive index difference between running buffer can run without DMSO altogether (0% DMSO). Significantly reduced contact time of surface proteins with DMSO extends the life span of the functionalized sensors and thus saves consumable costs. Mode of operation Angular Scanning mode, "MP-SPR mode" - scanning across a range of angles providing full SPR curve and multiple parameters. Several sensograms can be plotted from the full curve, such as PureKinetics". Sampling rate depends on selected angular range, typical less than 2 seconds. Fixed Angle mode, "traditional SPR mode" - measurement from single angle, providing time - intensity sensogram. Mode for fast kinetic studies - sampling rate from Ims Measurement range Kinetics: k_a = 10 ² - 0 ¹ 1/(M*s), k_d = 10 ⁻² - 0.11/s, K_D = 10 ⁻³ - 10 ⁻¹ M Thickness from Angström sto micrometers (true range depends on refractive index of the material). Sensitivity In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons Noise Short-term noise 0.3 µRIU, Baseline drift (long term) < 1µRIU/min. Temperature Measurement temperature range from 15 - 40 ⁻¹ (7 below to 20°C above ambient). Prism Urid mange Surfaces SunJable, Such as metals (u.A, Q, c.U, Pt, other inorganics (S	Sample consumption	
Hetractive index rangeLayers that MP-SPR can measure can have much higher RI such as diamond like carbon (2.7) and inorganic crystals.MediaFull scan encompasses both environments: gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvents.PureKinetics"Full scan encompasses both environments: gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvents.PureKineticsPureKinetics"Sum encompasses both environments: gas and liquid. Robust fluidics allows for water based liquids but also for some organic solvents.PureKineticsPureKinetics" is a unique feature that enables measurements in 100% Serum and allows having high refractive index difference between running the buffer and the sample. Thus, while lingted sample has 5% DMS0 to ensure solubility of the sample, the running buffer can run whitout DMS0 allogether (0% DMS0.) Significantly reduced contact time of surface proteins with DMS0 extends the life span of the functionalized sensors and thus saves consumable costs.Mode of operationRingtics: h_g=10^-10^-10/WP-SPR mode" - scanning across a range of angles providing time - intensity sensogram. Mode for fast kinetic studies - sampling rate from the full curve, such as PureKinetics'''. Sampling rate depends on selected angular range, typical less than 2 seconds.Measurement rangeKinetics: h_g=10^-10^-11/Wrs), k_g=10^-2-0^-10^-M Thickness from Angströms to micrometers (true range depends on refractive index of the material).SensitivityIn gas: from 2 Daltons (Hydrogen) - in liquid: -(100 DaltonsNoiseShort-term noise 0.3 µRIU, Baseline drift (long term) < 1µRIU/min.	Wavelength of light	Standard 670 nm for all channels.
Mediasome organic solvents.PureKinetics"is a unique feature that enables measurements in 100% Serum and allows having high refractive index difference between running the buffer and the sample. Thus, while injected sample has 5% DMSO to ensure solubility of the sample, the running buffer can run without DMSO altogether (0% DMSO). Significantly reduced contact time of surface proteins with DMSO extends the life span of the functionalized sensors and thus saves consumable costs.Mode of operationAngular Scanning mode, "MP-SPR mode" - scanning across a range of angles providing full SPR curve and multiple parameters. Several sensograms can be plotted from the full curve, such as PureKinetics". Sampling rate depends on selected angular range, typical less than 2 seconds. Fixed Angle mode, "traditional SPR mode"- measurement from single angle, providing time - intensity sensogram. Mode for fast kinetic studies - sampling rate from 1msMeasurement rangeKinetics: ka=10°-10° 1/(M*s), kg=10° ² -0.11/s, Kp=10° ²⁻¹ 0° ²⁻¹ M Thickness from Angströms to micrometers (true range depends on refractive index of the material).SensitivityIn gas: from 2 Daltons (Hydrogen) - in liquid: <100 DaltonsNoiseShort-term noise 0.3 µRIU, Baseline drift (long term) < 1µRIU/min.TemperatureMeasurement temperature range from 15-40°C (7' below to 20°C above ambient).PrismStandard: 4 channel PDMS flow cell. Flow cell volume: 1µl. Optional flow cells: SPR321-EC: Electrochemical flow cell (one chamber), or request custom made flow cellSoftwareWide range of surfaces available. Such as metals (Au, Ag, Cu, PL), other inorganics (SiO, AbO, TIO) or furctionalized surfaces (CMD, Ni [*] , Protein A, Biotin, Steptavidin, Disulfide). If you cannot find what you are looking fo	Refractive index range	
Mode of operationparameters. Several sensograms can be plotted from the full curve, such as PureKinetics". Sampling rate depends on selected angular range, typical less than 2 seconds. Fixed Angle mode, "traditional SPR mode" - measurement from single angle, providing time - intensity sensogram. Mode for fast kinetic studies - sampling rate from 1msMeasurement rangeKinetics: kg = 10 ³ - 10 ⁸ 1/(M*s), kd = 10 ⁻⁷ - 0.1 1/s, Kp = 10 ⁻³ - 10 ⁻¹² M Thickness from Angströms to micrometers (true range depends on refractive index of the material).SensitivityIn gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons	PureKinetics™	some organic solvents. PureKinetics™ is a unique feature that enables measurements in 100% Serum and allows having high refractive index difference between running the buffer and the sample. Thus, while injected sample has 5% DMSO to ensure solubility of the sample, the running buffer can run without DMSO altogether (0% DMSO). Significantly reduced contact time of
Measurement rangeThickness from Ångströms to micrometers (true range depends on refractive index of the material).SensitivityIn gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons	Mode of operation	parameters. Several sensograms can be plotted from the full curve, such as PureKinetics [™] . Sampling rate depends on selected angular range, typical less than 2 seconds. Fixed Angle mode , "traditional SPR mode" - measurement from single angle, providing time – intensity sensogram.
NoiseShort-term noise 0.3 μRIU, Baseline drift (long term) < 1μRIU/min.		
Temperature Measurement temperature range from 15 – 40 °C (7° below to 20°C above ambient). Prism Prism with elastomer enables quick sensor exchange, avoids contamination of sample with RI matching oil and enables further analysis of sample with other methods. No need to use RI oil or expensive gold coated prisms! Flow cells Standard: 4 channel PDMS flow cell. Flow cell volume: 1 µl. Optional flow cells: SPR321-EC: Electrochemical flow cell (one chamber), or request custom made flow cell! Substrates Wide range of surfaces available. Such as metals (Au, Ag, Cu, Pt…), other inorganics (SiO ₂ , Al ₂ O ₃ , TIO ₂ …) or functionalized surfaces (CMD, Ni ²⁺ , Protein A, Biotin, Steptavidin, Disulfide…). If you cannot find what you are looking for, ask our custom made surfaces! Software Unlimited MP-SPR Navi Control and Data Viewer software. TraceDrawer™ software for kinetic analysis included. Optional: LayerSolver™ fitting tool for layer characterization Maintenance No service contract needed unless you want one. HPLC tubing enables easy exchange of parts. Ask more information about annual maintenance contract and Gold, Silver, or Bronze service contracts. Computer requirements Win 7, Win 8.1 or Win 10, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data) Dimensions W 62 x H 41 x D 47 cm (24" x 16" x 18.5"), 50 kg (110 lbs)	Measurement range	Kinetics: $k_a = 10^3 - 10^8 1/(M*s)$, $k_d = 10^{-7} - 0.1 1/s$, $K_D = 10^{-3} - 10^{-12} M$
PrismPrism with elastomer enables quick sensor exchange, avoids contamination of sample with RI matching oil and enables further analysis of sample with other methods. No need to use RI oil or expensive gold coated prisms!Flow cellsStandard: 4 channel PDMS flow cell. Flow cell volume: 1 µl. Optional flow cells: SPR321-EC: Electrochemical flow cell (one chamber), or request custom made flow cell!SubstratesWide range of surfaces available. Such as metals (Au, Ag, Cu, Pt), other inorganics (SiO2, Al₂O3, TIO2) or functionalized surfaces (CMD, Ni²+, Protein A, Biotin, Steptavidin, Disulfide). If you cannot find what you are looking for, ask our custom made surfaces!SoftwareUnlimited MP-SPR Navi Control and Data Viewer software. TraceDrawer™ software for kinetic analysis included. Optional: LayerSolver™ fitting tool for layer characterizationMaintenanceNo service contract needed unless you want one. HPLC tubing enables easy exchange of parts. Ask more information about annual maintenance contract and Gold, Silver, or Bronze service contracts.DimensionsW 62 x H 41 x D 47 cm (24" x 16" x 18.5"), 50 kg (110 lbs)	-	Kinetics: $k_a = 10^3 - 10^8 1/(M*s)$, $k_d = 10^{-7} - 0.1 1/s$, $K_D = 10^{-3} - 10^{-12} M$ Thickness from Ångströms to micrometers (true range depends on refractive index of the material).
Prism further analysis of sample with other methods. No need to use RI oil or expensive gold coated prisms! Flow cells Standard: 4 channel PDMS flow cell. Flow cell volume: 1 µl. Optional flow cells: SPR321-EC: Electrochemical flow cell (one chamber), or request custom made flow cell! Substrates Wide range of surfaces available. Such as metals (Au, Ag, Cu, Pt), other inorganics (SiO ₂ , Al ₂ O ₃ , TIO ₂) or functionalized surfaces (CMD, Ni ²⁺ , Protein A, Biotin, Steptavidin, Disulfide). If you cannot find what you are looking for, ask our custom made surfaces! Software Unlimited MP-SPR Navi Control and Data Viewer software. TraceDrawer™ software for kinetic analysis included. Optional: LayerSolver™ fitting tool for layer characterization Maintenance No service contract needed unless you want one. HPLC tubing enables easy exchange of parts. Ask more information about annual maintenance contract and Gold, Silver, or Bronze service contracts. Optimensions Wie 2 x H 41 x D 47 cm (24" x 16" x 18.5"), 50 kg (110 lbs)	Sensitivity	Kinetics: k _a = 10 ³ – 10 ⁸ 1/(M*s), k _d = 10 ⁻⁷ – 0.1 1/s, K _D = 10 ⁻³ – 10 ⁻¹² M Thickness from Ångströms to micrometers (true range depends on refractive index of the material). In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons
Flow cells Optional flow cells: SPR321-EC: Electrochemical flow cell (one chamber), or request custom made flow cell! Substrates Wide range of surfaces available. Such as metals (Au, Ag, Cu, Pt), other inorganics (SiO ₂ , Al ₂ O ₃ , TIO ₂) or functionalized surfaces (CMD, Ni ²⁺ , Protein A, Biotin, Steptavidin, Disulfide). If you cannot find what you are looking for, ask our custom made surfaces! Software Unlimited MP-SPR Navi Control and Data Viewer software. TraceDrawer™ software for kinetic analysis included. Optional: LayerSolver™ fitting tool for layer characterization Maintenance No service contract needed unless you want one. HPLC tubing enables easy exchange of parts. Ask more information about annual maintenance contract and Gold, Silver, or Bronze service contracts. Computer requirements Win 7, Win 8.1 or Win 10, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data) Dimensions W 62 x H 41 x D 47 cm (24" x 16" x 18.5"), 50 kg (110 lbs)	Sensitivity Noise	Kinetics: k _a = 10 ³ - 10 ⁸ 1/(M*s), k _d = 10 ⁻⁷ - 0.1 1/s, K _D = 10 ⁻³ - 10 ⁻¹² MThickness from Ångströms to micrometers (true range depends on refractive index of the material).In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons
Substratesfunctionalized surfaces (CMD, Ni²+, Protein A, Biotin, Steptavidin, Disulfide). If you cannot find what you are looking for, ask our custom made surfaces!SoftwareUnlimited MP-SPR Navi Control and Data Viewer software. TraceDrawer™ software for kinetic analysis included. Optional: LayerSolver™ fitting tool for layer characterizationMaintenanceNo service contract needed unless you want one. HPLC tubing enables easy exchange of parts. Ask more information about annual maintenance contract and Gold, Silver, or Bronze service contracts.Computer requirementsWin 7, Win 8.1 or Win 10, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data)DimensionsW 62 x H 41 x D 47 cm (24" x 16" x 18.5"), 50 kg (110 lbs)	Sensitivity Noise Temperature	Kinetics: k _a = 10 ³ - 10 ⁸ 1/(M*s), k _d = 10 ⁻⁷ - 0.1 1/s, K _D = 10 ⁻³ - 10 ⁻¹² MThickness from Ångströms to micrometers (true range depends on refractive index of the material).In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons
Software Optional: LayerSolver™ fitting tool for layer characterization Maintenance No service contract needed unless you want one. HPLC tubing enables easy exchange of parts. Ask more information about annual maintenance contract and Gold, Silver, or Bronze service contracts. Computer requirements Win 7, Win 8.1 or Win 10, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data) Dimensions W 62 x H 41 x D 47 cm (24" x 16" x 18.5"), 50 kg (110 lbs)	Sensitivity Noise Temperature Prism	Kinetics: k _a = 10 ³ - 10 ⁶ 1/(M*s), k _d = 10 ⁻⁷ - 0.1 1/s, K _D = 10 ⁻³ - 10 ⁻¹² MThickness from Ångströms to micrometers (true range depends on refractive index of the material).In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons
Maintenance Ask more information about annual maintenance contract and Gold, Silver, or Bronze service contracts. Computer requirements Win 7, Win 8.1 or Win 10, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data) Dimensions W 62 x H 41 x D 47 cm (24" x 16" x 18.5"), 50 kg (110 lbs)	Sensitivity Noise Temperature Prism Flow cells	Kinetics: k _a = 10 ³ - 10 ⁶ 1/(M*s), k _d = 10 ⁻⁷ - 0.1 1/s, K _D = 10 ⁻³ - 10 ⁻¹² M Thickness from Ångströms to micrometers (true range depends on refractive index of the material).In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons
Dimensions W 62 x H 41 x D 47 cm (24" x 16" x 18.5"), 50 kg (110 lbs)	Sensitivity Noise Temperature Prism Flow cells Substrates	Kinetics: ka = 10³ - 10° 1/(M*s), kd = 10-7 - 0.1 1/s, KD = 10-3 - 10-12 MThickness from Ångströms to micrometers (true range depends on refractive index of the material).In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons
	Sensitivity Noise Temperature Prism Flow cells Substrates Software	 Kinetics: k_a = 10³ - 10⁸ 1/(M*s), k_d = 10⁻⁷ - 0.1 1/s, K_D = 10⁻³ - 10⁻¹² M Thickness from Ångströms to micrometers (true range depends on refractive index of the material). In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons Short-term noise 0.3 µRIU, Baseline drift (long term) < 1µRIU/min. Measurement temperature range from 15 - 40 °C (7° below to 20°C above ambient). Prism with elastomer enables quick sensor exchange, avoids contamination of sample with RI matching oil and enables further analysis of sample with other methods. No need to use RI oil or expensive gold coated prisms! Standard: 4 channel PDMS flow cell. Flow cell volume: 1 µl. Optional flow cells: SPR321-EC: Electrochemical flow cell (one chamber), or request custom made flow cell! Wide range of surfaces available. Such as metals (Au, Ag, Cu, Pt), other inorganics (SiO₂, Al₂O₃, TIO₂) or functionalized surfaces (CMD, Ni²⁺, Protein A, Biotin, Steptavidin, Disulfide). If you cannot find what you are looking for, ask our custom made surfaces! Unlimited MP-SPR Navi Control and Data Viewer software. TraceDrawer™ software for kinetic analysis included. Optional: LayerSolver™ fitting tool for layer characterization No service contract needed unless you want one. HPLC tubing enables easy exchange of parts.
Power requirement 100-240V, 50/60Hz, max. 100W	Sensitivity Noise Temperature Prism Flow cells Substrates Software Maintenance	Kinetics: ka = 10³ - 10° 1/(M*s), kd = 10-7 - 0.1 1/s, Kp = 10-3 - 10-12 MThickness from Ångströms to micrometers (true range depends on refractive index of the material).In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons
	Sensitivity Noise Temperature Prism Flow cells Substrates Software Maintenance Computer requirements	Kinetics: k _a = 10³ - 10° 1/(M*s), k _d = 10-7 - 0.1 1/s, K _D = 10-3 - 10-12 MThickness from Ångströms to micrometers (true range depends on refractive index of the material).In gas: from 2 Daltons (Hydrogen) - in liquid: <100 Daltons

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.



Quantum Design 1 avenue de l'Atlantique Bâtiment Fuji-Yama 91940 Les Ulis - France

Tél. : +33 1 69 19 49 49 france@qd-europe.com www.qd-europe.com

