nicoya

Product Catalogue

Table of Contents

OpenSPR and OpenSPR-XT

Sensors

Standard Sensors*

Product Name	Description	Quantity	SKU
High Capacity Carboxyl Sensors	High Capacity Carboxyl Sensors have an optimized surface for improved immobilization of targets containing primary amine groups via EDC/NHS coupling. The high capacity carboxyl chemistry allows for enhanced performance and minimal non-specific binding. To be used in combination with Nicoya's Carboxyl Optimization Kit or the Carboxyl Reagent kit.	Pack of 3 or 10	SEN-AU-100-3-HC-COOH SEN-AU-100-10-HC-COOH
Amine Sensors	Amine Sensors are used to covalently immobilize biomolecules containing free carboxyl groups onto the sensor surface for analysis in OpenSPR instruments. Note that to couple the biomolecule to the sensor surface via EDC/NHS chemistry, the EDC/NHS activation and blocking takes place on the biomolecule. This method is typically only recommended for biomolecules containing a COOH tag for coupling. It is recommended to use with Nicoya's Amine Coupling Kit, which provides the coupling reagents (ie EDC/NHS, etc.) required for surface preparation and sample immobilization.	Pack of 3 or 10	SEN-AU-100-3-AMINE SEN-AU-100-10-AMINE
Biotin Sensors	Biotin Sensors are used to capture Streptavidin, or biomolecules containing a Streptavidin tag onto the sensor surface for analysis in OpenSPR instruments. The biotin-streptavidin interaction is extremely strong, making this a robust and reliable immobilization method.	Pack of 3 or 10	SEN-AU-100-3-BIOTIN SEN-AU-100-10-BIOTIN
Carboxyl Sensors	Carboxyl Sensors are used to covalently immobilize biomolecules containing primary amine groups onto the sensor surface via EDC/NHS coupling. It is recommended to use with Nicoya's Carboxyl Optimization Kit or Carboxyl Reagent Kit, both of which provide the coupling reagents (ie EDC/NHS, etc.) required for surface preparation and sample immobilization.	Pack of 3 or 10	SEN-AU-100-3-COOH SEN-AU-100-10-COOH
Liposome Sensors	Liposome (LIP-1) Sensors contain branched lipophilic groups for direct capture of user prepared liposomes. The liposome bilayer structure is retained on the surface for easy analysis. These sensors are recommended to be used for transmembrane receptors among other applications. It is recommended to use with Nicoya's Liposome Reagent Kit which provides reagents for surface preparation and lipid removal.	Pack of 3 or 10	SEN-AU-100-3-LIP1 SEN-AU-100-10-LIP1
Gold Sensors	Gold Sensors contain unfunctionalized gold nanoparticles for applications where direct sample immobilization onto gold is desired, or for creation of a custom functional chemistry. If wanting to work with a standard chemistry functionalization (eg Carboxyl, NTA, etc.) it is highly recommended to use Nicoya's optimized pre-functionalized sensors. It is recommended to use with PEG Blockers to reduce non-specific binding of analyte samples to exposed gold surface sites.	Pack of 10	SEN-AU-100-10
Hydrophobic Sensors	Hydrophobic (MEM) Sensors contain a brush-like hydrophobic layer of long-chain alkane molecules for immobilization of lipid molecules into a monolayer structure on the sensor surface. These sensors can be used to study transmembrane receptors among other applications.	Pack of 3 or 10	SEN-AU-100-3-MEM1 SEN-AU-100-10-MEM1

**Compatible with both OpenSPR R4 and R3 instruments*

Product Name	Description	Quantity	SKU
NTA Sensors	NTA Sensors are used to capture biomolecules containing a His-tag onto the sensor surface for analysis in OpenSPR instruments. The reversible nature of the His-NTA interaction allows the ligand to be removed and re-immobilized for subsequent interaction analysis. It is recommended to use with Nicoya's NTA Reagent Kit, which provides the surface preparation reagents (ie EDTA, NiCl2) as well as a ligand regeneration solution (imidazole) for required sample immobilization.	Pack of 3 or 10	SEN-AU-100-3-NTA SEN-AU-100-10-NTA
Protein A Sensor Kit	The Protein A Sensor Kit enables users to create a Protein A-functionalized sensor surface for immobilization of Fc-tagged or IgG-based ligands for analysis in OpenSPR instruments. Protein A will capture most human and mouse IgG subclasses with high affinity and can also bind with total IgG from cow, guinea pig, horse, pig, and rabbit. Kit includes all reagents necessary to create a Protein A surface functionalization over a High Capacity Carboxyl Sensor for 3 or 10 experiments.	**3 experiments:** 3x High Capacity Carboxyl Sensors 3x Protein A Aliquots 7.7 mg EDC 4.6 mg NHS 1.5mL 10mM HCl 1.5mL 1M Ethanolamine 2mL Protein A Immobilization Buffer (10 mM Sodium Acetate pH 5.0) **10 experiments:** 10x High Capacity Carboxyl Sensors 10x Protein A Aliquots 3x 7.7 mg EDC 3x 4.6 mg NHS 2x 1.5mL 10mM HCl 2x 1.5mL 1M Ethanolamine 2x 2mL Protein A Immobilization Buffer (10 mM Sodium Acetate pH 5.0)	SEN-AU-100-3-PROA-KIT SEN-AU-100-10-PROA-KIT
Biotin-Streptavidin Sensor Kit	The Biotin-Streptavidin Sensor Kit enables users to create a streptavidin-functionalized sensor surface for immobilization of biotin-tagged ligands for analysis in OpenSPR instruments. The biotin-streptavidin interaction is extremely strong, making this a robust and reliable immobilization method.	**3 experiments:** 3x Biotin Sensors 3x Streptavidin Aliquots **10 experiments:** 10x Biotin Sensors 10x Streptavidin Aliquots	SEN-AU-100-10-STRP-KIT
Thiol Sensors Kit	The Thiol Sensor Kit enables users to create a thiol-functionalized sensor surface for immobilization of biomolecules containing moieties reactive to thiols, such as maleimide tags for analysis in OpenSPR instruments. Kit includes all reagents necessary to create and maintain a functional thiol surface over a Carboxyl Sensor for 10 experiments.	10x Carboxyl Sensors 19 mg EDC (for 1 mL) 12 mg NHS (for 1 mL) 2.4 mL Activation Buffer 2.4 mL Blocking Solution 34 mg Cysteamine 86 mg TCEP	SEN-AU-100-10-THIOL-KIT
Sensor Starter Pack	The Sensor Starter Pack contains the most commonly used sensor chemistries (High Capacity Carboxyl, NTA, Biotin-Streptavidin) and corresponding reagent kits to find the right surface chemistry for your application.	3x NTA Sensors 3x High Capacity Carboxyl Sensors 3x Biotin Sensors (To be used with Streptavidin aliquots to create a Streptavidin functional surface) 3x Streptavidin Protein Aliquots 1x NTA Reagent Kit 1x Trial Carboxyl Optimization Kit	SSP-1A
Diagnostic Sensors	Diagnostic Sensors contain a non-functional surface coating for performing diagnostic and training routines on the OpenSPR instrument. Sensors are provided in a package of 4 or 10.	Pack of 4 or 10	SEN-AU-100-4-DIAG SEN-AU-100-10-DIAG

High-Sensitivity Sensors*

Product Name	Description	Quantity	SKU
High Sensitivity Biotin Sensors	OpenSPR High Sensitivity Sensors are made with a specialized nanogold surface to provide an extra boost of localized sensitivity close to the sensor surface. The increased localized sensitivity is particularly advantageous for small molecule analysis, and can also be used to enhance the signals of other larger biomolecules that interact close to the surface. High Sensitivity Biotin Sensors are used to capture Streptavidin, or biomolecules containing a Streptavidin tag onto the sensor surface for analysis in OpenSPR instruments. The biotin-streptavidin interaction is extremely strong, making this a robust and reliable immobilization method.	Pack of 8	SEN-HS-8-BIOTIN
High Sensitivity Carboxyl Sensors	OpenSPR High Sensitivity Sensors are made with a specialized nanogold surface to provide an extra boost of localized sensitivity close to the sensor surface. The increased localized sensitivity is particularly advantageous for small molecule analysis, and can also be used to enhance the signals of other larger biomolecules that interact close to the surface. High Sensitivity Carboxyl Sensors are used to covalently immobilize biomolecules containing free primary amine groups (proteins, antibodies, aptamers and more) onto the sensor surface for analysis in OpenSPR instruments. Sensors are provided in a package of 8. It is recommended to use with Nicoya's Carboxyl Optimization Kit or Carboxyl Reagent Kit, both of which provide the coupling reagents (ie EDC/NHS, etc.) required for surface preparation and sample immobilization.	Pack of 3 or 8	SEN-HS-3-COOH SEN-HS-8-COOH
High Sensitivity NTA Sensors	OpenSPR High Sensitivity Sensors are made with a specialized nanogold surface to provide an extra boost of localized sensitivity close to the sensor surface. The increased localized sensitivity is particularly advantageous for small molecule analysis, and can also be used to enhance the signals of other larger biomolecules that interact close to the surface. High Sensitivity NTA Sensors are used to capture biomolecules containing a His-tag onto the sensor surface for analysis in OpenSPR instruments. The reversible nature of the His-NTA interaction allows the ligand to be removed and re-immobilized for subsequent interaction analysis. Sensors are provided in a package of 8. It is recommended to use with Nicoya's NTA Reagent Kit, which provides the surface preparation reagents (ie EDTA, NiCl2) as well as a ligand regeneration solution (imidazole) for required sample immobilization.	Pack of 3 or 8	SEN-HS-3-NTA SEN-HS-8-NTA
High Sensitivty Biotin-Streptavidin Sensors Kit	OpenSPR High Sensitivity Sensors are made with a specialized nanogold surface to provide an extra boost of localized sensitivity close to the sensor surface. The increased localized sensitivity is particularly advantageous for small molecule analysis, and can also be used to enhance the signals of other larger biomolecules that interact close to the surface. The High Sensitivity Biotin-Streptavidin Sensor Kit enables users to create a streptavidin-functionalized sensor surface for immobilization of biotin-tagged ligands for analysis in OpenSPR instruments. The biotin-streptavidin interaction is extremely strong, making this a robust and reliable immobilization method.	**3 experiments:** 3x Biotin Sensors 3x Streptavidin Aliquots **10 experiments:** 8x Biotin Sensors 8x Streptavidin Aliquots	SEN-HS-3-STRP-KIT SEN-HS-8-STRP-KIT
High Sensitivity Sensor Starter Pack	OpenSPR High Sensitivity Sensors are made with a specialized nanogold surface to provide an extra boost of localized sensitivity close to the sensor surface. The increased localized sensitivity is particularly advantageous for small molecule analysis, and can also be used to enhance the signals of other larger biomolecules that interact close to the surface. The High Sensor Starter Pack contains the most commonly used sensor chemistries (Carboxyl, NTA, Biotin-Streptavidin) and corresponding reagent kits to find the right surface chemistry for your application.	3x High Sensitivity NTA Sensors 3x High Sensitivity Carboxyl Sensors 3x High Sensitivity Biotin Sensors (To be used with Streptavidin aliquots to create a Streptavidin functional surface) 3x Streptavidin Protein Aliquots 1x NTA Reagent Kit 1x Amine Coupling Kit (Protein Immobilization) for 3 coupling reactions	SSP-HS-1A

**Compatible with only OpenSPR R4 instruments*

Reagents

Immobilization & Coupling

Product Name	Description	Volume/Weight	SKU
Amine Coupling Kit – Proteins	Amine Coupling Kit - Proteins contains reagents to covalently couple protein or antibody samples to the surface of OpenSPR Carboxyl or Amine Sensors. Reagents include EDC/NHS to activate the carboxyl groups, an Activation Buffer to enable pre-concentration of protein samples with a pI > 4, and a Blocking Solution to deactivate unreacted carboxyl groups. Kits include all reagents necessary for up to 10 experiments.	EDC NHS Activation Buffer Blocking Solution	AMINE-3 AMINE-10
Immobilization Buffer 10 mM Acetate (pH 4.0-5.5)	Immobilization buffers are used to dilute the ligand for direct coupling onto the sensor surface of Carboxyl-functional sensors. The low pH and salt content of sodium acetate buffers are ideal for pre-concentration of the ligand to the Carboxyl sensor surface, increasing immobilization efficiency. It is recommended to find the optimal pH for a ligand experimentally, but typically a pH that is 0.5 units below the pI of the ligand can be used. Provided at a volume of 50 mL, this reagent is sufficient to last many experiments.	50 mL	IMB-4.0 IMB-4.5 IMB-5.0 IMB-5.5
Immobilization Buffer Optimization Kit	Immobilization Buffer Optimization Kit contains a panel of 10 mM Sodium Acetate buffers from pH 4.0-5.5. Immobilization buffers are used to dilute the ligand for direct coupling onto the sensor surface of Carboxyl-functional sensors. The low pH and salt content is ideal for pre-concentration of the ligand to the Carboxyl sensor surface, increasing immobilization efficiency. It is recommended to find the optimal pH for a ligand experimentally. 10 mM Sodium Acetate Buffers are ideal for many applications where the ligand pI is at or below 6.	1x 10 mM Acetate Buffer, pH 4.0, 20 mL 1x 10 mM Acetate Buffer, pH 4.5, 20 mL 1x 10 mM Acetate Buffer, pH 5.0, 20 mL 1x 10 mM Acetate Buffer, pH 5.5, 20 mL	IMB-OPT
Liposome Reagent Kit	Liposome (LIP) Reagent Kit contains reagents needed to prepare and remove liposomes from OpenSPR Liposome (LIP-1) Sensors. This kit works by disrupting hydrophobic interactions between lipids. Kit includes reagents for up to 10 experiments.	123 mg CHAPS (for 10 mL at 20 mM)	LIP-RK
Hydrophobic Reagent Kit	Hydrophobic (MEM) Reagent Kit contains reagents needed to prepare and remove hydrophobic molecules from OpenSPR Hydrophobic (MEM) Sensors. The kit works by disrupting hydrophobic interactions. Kit includes reagents for up to 10 experiments.	59 mg OGP (for 5 mL at 40 mM)	MEM-RK
NTA Reagent Kit	NTA Reagent Kit contains reagents to immobilize and remove HIS-tagged ligands to OpenSPR NTA-functional sensors. Reagents include an EDTA conditioning solution, NiCl2 to activate the NTA surface, and imidazole to disrupt HIS-NTA bonds for ligand removal from the surface. Kit includes reagents for up to 10 experiments	190 mg NiCl2 (for 20 mL at 40 mM) 272 mg Imidazole (for 8 mL at 500 mM) 20 mL EDTA, pH 8.0	NTA-RK

Product Name	Description	Volume/Weight	SKU
Carboxyl Reagent Kit	Carboxyl Reagent Kit contains the necessary reagents to covalently couple protein or antibody samples to the surface of OpenSPR Sensors containing Carboxyl or Amine functionalization. Reagents include Conditioning Solution, EDC/NHS to activate the carboxyl groups, and a Blocking Solution to deactivate unreacted carboxyl groups. Immobilization buffer to prepare the ligand is not included.	**3 experiments:** 7.7 mg EDC 4.6 mg NHS 1.5 mL 10 mM HCl 1.5 mL 1 M Ethanolamine, pH 8.5 **10 experiments:** 3x 7.7 mg EDC 3x 4.6 mg NHS 3 mL 10 mM HCl 3 mL 1 M Ethanolamine, pH 8.5	COOH-RK-3 COOH-RK-10
Carboxyl Optimization Kit	Carboxyl Optimization Kit contains reagents to optimize the covalent coupling of protein or antibody samples to the surface of OpenSPR Sensors containing Carboxyl or Amine functionalization. Reagents include Conditioning Solution, EDC/NHS to activate the carboxyl groups, a panel of Sodium Acetate buffers to optimize ligand pre-concentration to the surface, and a Blocking Solution to deactivate unreacted carboxyl groups.	**3 experiments:** 7.7 mg EDC 4.6 mg NHS 1.5 mL 10 mM HCl 1.5 mL 1 M Ethanolamine, pH 8.5 2 mL each 10 mM Sodium Acetate, pH 4.0, 4.5, 5.0, 5.5 **10 experiments:** 3x 7.7 mg EDC 3x 4.6 mg NHS 3 mL 10 mM HCl 3 mL 1 M Ethanolamine, pH 8.5 2 mL each 10 mM Sodium Acetate, pH 4.0, 4.5, 5.0, 5.5	COOH-OPT-RK-3 COOH-OPT-RK-10

Regeneration Solutions

Product Name	Description	Volume/Weight	SKU
4 M MgCl2	Magnesium Chloride (MgCl2) is a salt-based regeneration solution used to quickly reverse the interaction between the analyte and ligand in OpenSPR instruments, allowing for analysis of subsequent interactions. Salt-based regeneration solutions are typically used in applications where the analyte-ligand interaction is driven by electrostatic forces. It is recommended to dilute the 4 M stock solution to a lower concentration (typically between 1-3 M) to prevent reduction of the ligand activity. Reagent is provided at a volume of 100 mL, sufficient to last many experiments.	100 mL	MGCL-100
5 M Sodium Chloride	Sodium Chloride (NaCl) is a salt-based regeneration solution used to quickly reverse the interaction between the analyte and ligand in OpenSPR instruments, allowing for analysis of subsequent interactions. Salt-based regeneration solutions are typically used in applications where the analyte-ligand interaction is driven by electrostatic forces. It is recommended to dilute the 5 M stock solution to a lower concentration (typically between 0.5-2 M) to prevent reduction of the ligand activity. Reagent is provided at a volume of 100 mL, sufficient to last many experiments.	100 mL	NACL-100
0.02 M Sodium Hydroxide	Sodium Hydroxide (NaOH) is a basic regeneration solution used to quickly reverse the interaction between the analyte and ligand in OpenSPR instruments, allowing for analysis of subsequent interactions. It is recommended to dilute the 0.02 M stock solution to a lower concentration (typically between 0.01-0.02 M) to prevent reduction of the ligand activity. Reagent is provided at a volume of 100 mL, sufficient to last many experiments.	100 mL	NAOH-100
0.5% SDS	0.5% SDS is a detergent-based regeneration buffer used to quickly reverse the interaction between the analyte and ligand in OpenSPR instruments, allowing for analysis of subsequent interactions. SDS is typically used in applications where the analyte-ligand interaction is driven by hydrophobic forces. Reagent is provided at a volume of 100 mL, sufficient to last many experiments.	100 mL	SDS-100
10 mM Glycine-HCl (pH 1.5-3.0)	10 mM Glycine-HCl is an acidic regeneration buffer used to quickly reverse the interaction between the analyte and ligand in OpenSPR instruments, allowing for analysis of subsequent interactions. Our Glycine-HCl regeneration solutions are suitable for many applications and comes in a variety of pH values. It is recommended to find the optimal pH for your ligand-analyte interactions experimentally. The optimal pH is the typically the highest pH which still removes all of the analyte. Reagent is provided at a volume of 100 mL, sufficient to last many experiments. Available in pH 1.5, 2.0, 2.5, 3.0.	100 mL	REG-1.5 REG-2.0 REG-2.5 REG-3.0
Regeneration Optimization Kit	The Regeneration Optimization Kit includes 8 solutions for regeneration scouting and optimization in OpenSPR instruments. Regeneration buffer conditions are typically optimized in order to effectively remove the analyte without reducing the activity of the ligand.	25 mL each 10 mM Glycine-HCl, pH 1.5, 2.0, 2.5, 3.0 25 mL 0.02 M Sodium Hydroxide 25 mL 5 M Sodium Chloride 25 mL 4 M MgCl2 25 mL 0.5% SDS	REGOPT

Running Buffers & Additives

Product Name	Description	Volume/Weight	SKU
PBS pH 7.4	Phosphate Buffered Saline (PBS) is a running buffer used throughout a typical interaction experiment on OpenSPR instruments. Provided at 1x concentration, PBS contains 0.01 M Phosphate buffer, 0.14 M NaCl, 3 mM KCl at pH 7.4. Reagent is provided at a volume of 400 mL and comes ready-to-use.	400 mL	PBS
PBS-T pH 7.4	Phosphate Buffered Saline (PBS) is a running buffer used throughout a typical interaction experiment on OpenSPR instruments. Tween 20 is a common additive to help reduce non-specific binding and sample loss. Provided at 1x concentration, PBS-T contains 0.01 M Phosphate buffer, 0.14 M NaCl, 3 mM KCl, 0.05% Tween 20 at pH 7.4. Reagent is provided at a volume of 400 mL and comes ready-to-use.	400 mL	PBS-T
HBS pH 7.4	Hepes Buffered Saline (HBS) is a running buffer used throughout a typical interaction experiment on OpenSPR instruments. Provided at 1x concentration, HBS contains 0.01 M HEPES, 0.15 M NaCl at pH 7.4. Reagent is provided at a volume of 400 mL and comes ready-to-use.	400 mL	HBS
HBS-EP pH 7.4	Hepes Buffered Saline (HBS) is a running buffer used throughout a typical interaction experiment on OpenSPR instruments. Tween 20 is a common additive to help reduce non-specific binding and sample loss, and EDTA helps to chelate any heavy metal ions present in the buffer solution. Provided at 1x concentration, HBS-T contains 0.01 M HEPES, 0.15 M NaCl, 0.005% Tween 20, 3 mM EDTA at pH 7.4. Reagent is provided at a volume of 400 mL and comes ready-to-use.	400 mL	HBS-EP
HBS-T pH 7.4	Hepes Buffered Saline (HBS) is a running buffer used throughout a typical interaction experiment on OpenSPR instruments. Tween 20 is a common additive to help reduce non-specific binding and sample loss. Provided at 1x concentration, HBS-T contains 0.01 M HEPES, 0.15 M NaCl, 0.005% Tween 20 at pH 7.4. Reagent is provided at a volume of 400 mL and comes ready-to-use.	400 mL	HBS-T
TRIS pH 7.4	Tris is a running buffer used throughout a typical interaction experiment on OpenSPR instruments. Provided at 1x concentration, buffer contains 0.01 M Tris at pH 7.4. Reagent is provided at a volume of 400 mL and comes ready-to-use.	400 mL	TRIS
TRIS-T pH 7.4	Tris is a running buffer used throughout a typical interaction experiment on OpenSPR instruments. Tween 20 is a common additive to help reduce non-specific binding and sample loss. Provided at 1x concentration, Tris-T contains 0.01 M Tris, 0.005% Tween20 at pH 7.4. Reagent is provided at a volume of 400 mL and comes ready-to-use.	400 mL	TRIS-T

Product Name	Description	Volume/Weight	SKU
Tween20	Tween20 is a non-ionic detergent used as a buffer additive to reduce non-specific adsorption of molecules to tubing, flow cell, sensor, and other surfaces. It can also help stabilize proteins. Tween20 is typically added at concentrations of 0.05% - 0.1% for most SPR applications. Our Tween20 is available in quantities of 2 mL as a neat solution for convenient dilution.	2 mL	TW20
Bovine Serum Albumin	Bovine Serum Albumin (BSA) is a common buffer additive which can help minimize analyte adsorption to the fluidics tubing as well as reduce non-specific binding to the sensor surface. It is typically added at concentrations from 0.05%-1% into the running buffer. It can also be used to as a blocking injection to help block non-specific sites on the sensor or as a test protein to evaluate non-specific binding levels. This BSA is sulfhydryl blocked and is provided in quantities of 2 g as a powder.	2 g	BSA-2
PEG Blockers for Gold Sensors	Polyethylene glycol (PEG) is a hydrophilic blocking reagent used to fill in empty available binding sites on Gold Sensor surfaces. Nicoya offers a thiolated PEG blocker with a molecular weight of 2000 g/mol, that bind directly to the gold surface with a high density and affinity. PEG blockers come in quantities of 50 mg as a powder and is typically diluted in water or running buffer to a working concentration of 10-50 µM.	50 mg	PEG2000-50

Experiment Kits

Product Name	Description	Kit Contents	SKU
SPR Education Kit	SPR Education Kit is designed for teaching labs to enable students to gain valuable experience in SPR kinetics analysis with the OpenSPR instrument. Materials are provided for 10 experiments to obtain kinetics with a Protein A - IgG binding system, along with a detailed laboratory manual (digital copy). For more details or questions about this kit, please reach out to support@nicoyalife.com.	10x High Capacity Carboxyl Sensors 1x Carboxyl Reagent Kit 10x Protein A aliquots 10x IgG aliquots 2x 400 mL PBS-T, pH 7.4 (Running Buffer) 25 mL Glycine-HCl, pH 1.5 (Regeneration Solution) 25 mL 80% Isopropanol 100x 1 mL Plastic Syringes 100x Blunt-end Injection Tips	EK-PROA-IGG
OpenSPR Validation Kit	OpenSPR Validation Kit includes reagents for three full kinetic experiments with a Protein A - IgG binding system. This robust binding system can be used to help train new OpenSPR users or can be used as a diagnostic experiment. Reagents and sensors to perform 3 experiments are provided.	3x High Capacity Carboxyl Sensors 1x Trial Carboxyl Reagent Kit 3x Protein A aliquots 3x IgG aliquots 2 mL Protein A Immobilization Buffer (10 mM Sodium Acetate, pH 5.0) 400 mL PBS-T, pH 7.4 (Running Buffer) 25 mL Glycine-HCl, pH 1.5 (Regeneration Solution)	VAL-KIN-3

Accessories

Syringes & Injection Tips

Product Name	Description	Quantity	SKU
1 mL Plastic Syringes	These 1 mL disposable plastic syringes contain a Luer-Lok™ fitting and work great with our Blunt-End Injection Tips for use with the OpenSPR instrument. Syringes are individually wrapped and come in a package of 50.	Pack of 50	SYR-PL-50
Blunt-End Injection Tips	Economical blunt-end injection tips for use with the OpenSPR instrument. They fit onto any standard syringe luer fitting, and are recommended to use with Nicoya's 1 mL Plastic Syringes. Tips are provided in a package of 50.	Pack of 50	TIP-BLUNT-50
Needle for Gastight Syringe	Replacement blunt-tipped needles for Nicoya's Gastight Glass Syringes. They are autoclavable and come in a package of 6.	Pack of 6	RN-G-6
Gastight Glass Syringe	250 µL Gastight Glass Syringe. To be used with Nicoya's Needles for Gastight Syringe for injection of samples without the introduction of bubbles or air gaps in the OpenSPR instrument.	1	SYR-G

Well Plates & Foil Covers (OpenSPR-XT)

Product Name	Description	Quantity	SKU
96 Well Plates	Flat-bottom polystyrene 96-well plates compatible with the OpenSPR-XT instrument. Recommended to use with Nicoya's Well Plate Covers to prevent sample evaporation.	Pack of 10 or 100	WP-10 WP-100
Well Plate Foil Covers, 10-pk	Pierceable adhesive covers for 96-well plates compatible with the OpenSPR-XT. Highly recommended to prevent sample evaporation during experiments. Covers are non-sterile and are provided in a package of 10 or 100.	Pack of 10 or 100	WPF-10 WPF-100

Bottles

Product Name	Description	Quantity	SKU
250 mL Glass Buffer Bottle	Square glass buffer bottle (250 mL) compatible with the OpenSPR buffer bottle shelf. Comes with lid and tube fitting.	1	BTL-SQ-250
500 mL Glass Buffer Bottle	Square glass buffer bottle (500 mL) with lid and tube fitting.	1	BTL-SQ-500
Fittings and Ferrules Buffer Bottle Lids	Tube fittings and ferrules for buffer bottle lids to secure buffer lines in place, package of 4.	Pack of 4	FITTING-LID

Sample Loops

Product Name	Description	Quantity	SKU
Sample Loop (50 µL)	50 µL volume PEEK sample loop for use in the OpenSPR instrument. Note the corresponding software setting must be changed for injection timing compatibility.	1	SL-50
Sample Loop (100 µL)	100 µL volume PEEK sample loop for use in the OpenSPR instrument (standard volume).	1	SL-100
Sample Loop (250 µL)	250 µL volume PEEK sample loop for use in the OpenSPR instrument. Note the corresponding software setting must be changed for injection timing compatibility.	1	SL-250
Sample Loop (500 µL)	500 µL volume PEEK sample loop for use in the OpenSPR instrument. Note the corresponding software setting must be changed for injection timing compatibility.	1	SL-500

Maintenance

Product Name	Description	Quantity	SKU
OpenSPR Advanced Cleaning Kit	The OpenSPR Advanced Cleaning Kit includes all recommended cleaning solutions for post experimental maintenance of your OpenSPR instrument. Cleaning solutions are specially formulated for compatibility with the OpenSPR to remove any sample contaminants.	25 mL 0.5% Sodium hypochlorite 25 mL 6M Urea 25 mL 0.2M Sodium bicarbonate 25 mL 0.5% SDS 25 mL 1% Acetic acid	CLN
OpenSPR Maintenance Kit	The OpenSPR Maintenance Kit includes solutions for both routine Basic and Full Instrument cleaning procedures, specially formulated for compatibility with OpenSPR.	100 mL 0.5% SDS 100 mL 0.2 M sodium bicarbonate 100 mL 0.5% sodium hypochlorite	MNT
Diagnostic Kit	Diagnostic kit includes all supplies required to run troubleshooting procedures on the OpenSPR to help diagnose potential issues.	10x Glucose vials 10x Diagnostic Sensors 50x 1 mL Plastic Syringes 50x Injection tips (blunt-end)	DIAG-KIT
Declogging Kit	Declogging Kit includes the necessary equipment to troubleshoot and unclog tubing from the OpenSPR right from your lab bench.	1x Luer Lock Adapter for fluidic connections 1x Finger Nut 1x Ferrule 1x 1mL Plastic Syringe	DECLOG - OpenSPR

R4 Spare Parts

Product Name	Description	Quantity	SKU
Spare Parts Kit for OpenSPR R4	The Spare Parts Kit includes all recommended parts for maintaining and repairing the OpenSPR R4.	1x Flow Cell Replacement Kit 1x 100 µL Sample Loop 1x Injection Port 1x Cool Light LED 1x Warm Light LED (for use with 2-Channel only) 1x Replacement Tubing Kit 10x Ferrules 1x Hex Nut 1x Bulk Head for Injection Port 1x Bulk Head for Waste	SPARE-R4
Spare Parts Kit for OpenSPR-XT R4	The Spare Parts Kit includes all recommended parts for maintaning and repairing the OpenSPR-XT R4.	1x Flow Cell Replacement Kit 1x 100 µL Sample Loop 1x Injection Port 1x Cool Light LED 1x Warm Light LED (2-Channel only) 1x Replacement Tubing Kit 10x Ferrules 1x Hex Nut 1x Bulk Head for Injection Port 1x Bulk Head for Waste 1x XT Valve Rotor Seal 1x XT Injection Needle with connections 1x XT Transit Tube with connections 1x XT Syringe 1x XT Syringe Valve	SPARE-R4-XT
Flow Cell Replacement Kit	Flow Cell Replacement Kit includes all components for a user to replace the flow cell in an OpenSPR Rev4 instrument.	1x Flow cell Flow cell tubing & connectors 1x Hex key thumbscrew	FC-R4-KIT
Cool Light LED	Cool Light LED for OpenSPR R4 instruments, for use with Standard Sensors.	1	LED-COOL
Warm Light LED	Warm Light LED for OpenSPR R4 instruments, for use with High Sensitivity Sensors. Note: Only compatible with 2-Channel OpenSPR and OpenSPR-XT	1	LED-WARM
Replacement Inlet/Outlet Tubing	Replacement set of 4x inlet and outlet tubes for OpenSPR R4 instruments.	Pack of 4	TUBE-INLET
Replacement Tubing Kit	Replacement Tubing Kit includes a full set of replacement microfluidic tubing for OpenSPR R4.	1	TUBE-KIT-R4
Injection Port	Injection port replacement for OpenSPR instruments, package of 2.	Pack of 2	INJPT

R3 Spare Parts

Product Name	Description	Quantity	SKU
Flow Cell for OpenSPR R3	Replacement flow cell for OpenSPR Rev3 instruments. Available individually or in pack of 5. Please provide your OpenSPR Rev3 unit serial number with your order.	Pack of 1 or 5	FC-100-1 FC-100-5
LED Light	LED light source for OpenSPR Rev3 instruments.	1	LED-BW
Pump Tubing	Replacement peristaltic pump tubing with barbed fittings for OpenSPR Rev3 instruments.	1	PS-T
Replacement Tubing Kit	Kit includes a full set of replacement microfluidic tubing and ferrules for OpenSPR Rev3 instruments.	1	TUBE-RPL-R3
Injection Port	Injection port replacement for OpenSPR instruments, package of 2.	Pack of 2	INJPT

Alto

Sensor Cartridges

Product Name	Description	Quantity	SKU
16-Channel Carboxyl Cartridge	The improved 16-channel Carboxyl Cartridge (compatible with software version 2.2.1 and above) is a single-use cartridge containing 16 carboxyl-functional sensors. It is used for immobilization of biomolecules containing free primary amine groups (proteins, antibodies, aptamers and more) onto the sensor surface for analysis in Alto instruments. It is recommended to use with the Alto Carboxyl Surfacing Kit, which provides the reagents required to prepare and activate the carboxyl sensor surface for ligand immobilization. The cartridge can also be used with a capture kit to create a capture surface. Each cartridge comes with cartridge fluid for single experimental use.	1	KC-CBX-PEG-16

Reagents

Regeneration Solutions

Product Name	Description	Volume/Weight	SKU
Regeneration Optimization Kit	The Alto Regeneration Optimization Kit contains a variety of regeneration solutions to optimize your experiments. Reagent solutions are ready-to-use in Alto cartridges, sufficient for up to 10 experiments.	2x 1.5 mL Gly-HCl, pH 1.5 2x 1.5 mL Gly-HCl, pH 2.0 2x 1.5 mL Gly-HCl, pH 2.5 2x 1.5 mL Gly-HCl, pH 3.0 2x 1.5 mL 10 mM NaOH 2x 1.5 mL 1 M NaCl 2x 1.5 mL 3 M MgCl2	ALTO-R-REGEN-OPT
10 mM Glycine-HCl, (pH 1.5 - 3.0)	10 mM Glycine-HCl is an acidic regeneration buffer used to quickly reverse the interaction between the analyte and ligand in Alto instruments, allowing for analysis of subsequent interactions. Our Glycine-HCl regeneration is suitable for many applications and comes in a variety of pH values. It is recommended to find the optimal pH for your ligand-analyte interactions experimentally. The optimal pH is the typically the highest pH which still removes all of the analyte. Reagent comes ready-to-use in Alto cartridges, sufficient for up to 10 experiments. Available in pH 1.5, 2.0, 2.5, 3.0.	2x 1.5 mL	ALTO-R-GLYHCl-1.5 ALTO-R-GLYHCl-2.0 ALTO-R-GLYHCl-2.5 ALTO-R-GLYHCl-3.0

Product Name	Description	Volume/Weight	SKU
3 M Magnesium Chloride	3 M Magnesium Chloride (MgCl2) is a salt-based regeneration solution used to quickly reverse the interaction between the analyte and ligand in Alto instruments, allowing for anaysis of subsequent interactions. Salt-based regeneration solutions are typically used in applications where the analyte-ligand interaction is driven by electrostatic forces. Reagent comes ready-to-use in Alto cartridges, sufficient for up to 10 experiments.	2x 1.5 mL	ALTO-R-MgCl2
1 M Sodium Chloride	1 M Sodium Chloride (NaCl) is a salt-based regeneration solution used to quickly reverse the interaction between the analyte and ligand in Alto instruments, allowing for anaysis of subsequent interactions. Salt-based regeneration solutions are typically used in applications where the analyte-ligand interaction is driven by electrostatic forces. Reagent comes ready-to-use in Alto cartridges, sufficient for up to 10 experiments.	2x 1.5 mL	ALTO-R-NaCl
10 mM Sodium Hydroxide	10 mM Sodium Hydroxide (NaOH) is a basic regeneration solution used to quickly reverse the interaction between the analyte and ligand in Alto instruments, allowing for anaysis of subsequent interactions. Reagent comes ready-to-use in Alto cartridges, sufficient for up to 10 experiments.	2x 1.5 mL	ALTO-R-NaOH

Buffers & Additives

Product Name	Description	Volume/Weight	SKU
PBS-T, pH 7.4	PBS-T is a running buffer used throughout a typical interaction experiment on Alto instruments. It is the carrier of the analyte and can have significant impacts on the interaction of the analyte with the ligand. PBS-T contains 0.01 M Phosphate buffer, 0.14 M NaCl, 3 mM KCl, and 0.1% T20 at pH 7.4. Reagent is provided at a volume of 25 mL and comes ready-to-use in Alto cartridges, sufficient for 10 experiments.	1x 1.5 mL	ALTO-R-PBST
TBS-T, pH 7.4	TBS-T is a running buffer used throughout a typical interaction experiment on Alto instruments. It is the carrier of the analyte and can have significant impacts on the interaction of the analyte with the ligand. TBS-T contains 0.05 M Tris, 0.15 M NaCl, and 0.1% T20 at pH 7.4. Reagent is provided at a volume of 25 mL and comes ready-to-use in Alto cartridges, sufficient for 10 experiments.	1x 25mL	ALTO-R-TBST
HBS-T, pH 7.4	HBS-T is a running buffer used throughout a typical interaction experiment on Alto instruments. It is the carrier of the analyte and can have significant impacts on the interaction of the analyte with the ligand. HBS-T contains 0.01 M HEPES, 0.15 M NaCl, and 0.1% T20 at pH 7.4. Reagent is provided at a volume of 25 mL and comes ready-to-use in Alto cartridges, sufficient for 10 experiments.	1x 25 mL	ALTO-R-HBST

Capture Kits & Surfacing Reagents

Product Name	Description	Volume/Weight	SKU
Carboxyl Reagent Optimization Kit	The Alto Carboxyl Reagent Optimization Kit contains all required reagents for preparation and activation of Alto Carboxyl Cartridges, plus a variety of immobilization buffers to optimize your experiments. Reagent solutions are ready-to-use in Alto cartridges, sufficient for up to 10 experiments.	2x tubes EDC 2x tubes NHS 2x 2 mL H2OT 40x Aliquot tubes 1.5 mL High RI Normalization (32% Glycerol) 1.5 mL Low RI Normalization (4% Glycerol) 1.5 mL 10 mM HCl 1.5 mL 1 M Ethanolamine, pH 8.5 1.5 mL 10 mM Sodium Acetate, pH 4.0 1.5 mL 10 mM Sodium Acetate, pH 4.5 1.5 mL 10 mM Sodium Acetate, pH 5.0 1.5 mL 10 mM Sodium Acetate, pH 5.5 1.5 mL 10 mM MES, pH 6.0	ALTO-R-CBX-OPT
Carboxyl Surfacing Kit	The Alto Carboxyl Surfacing Kit contains all reagents required to prepare and activate the carboxyl sensor surface for ligand immobilization including the Normalization, Clean and Build Surface activities. Reagent solutions are ready-to-use in Alto cartridges, sufficient for up to 10 experiments. Ligand immobilization buffer not included, as this is typically optimized and selected for your specific sample.	2x tubes EDC 2x tubes NHS 2x 2 mL H2OT 40x Aliquot tubes 1.5 mL High RI Normalization (32% Glycerol) 1.5 mL Low RI Normalization (4% Glycerol) 1.5 mL 10 mM HCl 1.5 mL 1 M Ethanolamine, pH 8.5	ALTO-R-CBX-SURF
EDC/NHS Kit	The Alto EDC/NHS Kit contains extra EDC & NHS activation reagents for use with Alto Carboxyl Cartridges and our Carboxyl Surfacing Kit. Extra EDC/NHS reagents are beneficial to have available due to their short shelf-life once dissolved and aliquoted. Each kit is sufficient for up to 10 experiments.	2x tubes EDC 2x tubes NHS 2x 2 mL H2OT 40x Aliquot tubes	ALTO-R-EDCNHS
Anti-HIS Capture Kit	The Anti-HIS Capture Kit is optimized for Alto Carboxyl Cartridges to create a functional surface for capture of histidine-tagged ligands. Each kit can create up to 10 anti-His capture cartridges. Cartridges and Carboxyl Surfacing Kit required for the experiment are not included. Note this kit is currently released as Beta product - for more information please contact support@nicoyalife.com.	10x Anti-His Aliquots 1.5 mL Sodium Acetate, pH 5.5	ALTO-R-HIS-KIT
Protein A Capture Kit	The Protein A Capture Kit is optimized for Alto Carboxyl Cartridges to create a protein A-functional surface for capture of compatible IgG or Fc-tagged ligands. Each kit can create up to 10 protein A-functional cartridges. Cartridges and Carboxyl Surfacing Kit required for the experiment are not included.	10x Protein A Aliquots 1.5 mL Sodium Acetate, pH 5.0	ALTO-R-PROA-KIT
Streptavidin Kit	The Streptavidin Kit is optimized for Alto Carboxyl Cartridges to create a streptavidin-functional surface for capture of biotin-tagged ligands. Each kit can create up to 10 streptavidin-functional cartridges. Cartridges and Carboxyl Surfacing Kit required for the experiment are not included.	10x Streptavidin Aliquots 1.5 mL 10 mM Sodium Acetate, pH 5.0	ALTO-R-STV-KIT

Product Name	Description	Volume/Weight	SKU
10 mM Sodium Acetate (pH 4.0 - 6.0)	Immobilization buffers are used to dilute the ligand for direct coupling onto the sensor surface of a Carboxyl Cartridge. The low pH and salt content is ideal for pre-concentration of the ligand to the Carboxyl sensor surface, increasing immobilization efficiency. It is recommended to find the optimal pH for a ligand experimentally, but typically a pH that is 0.5 units below the pI of the ligand can be used. Each immobilization buffer is ready-to-use in Alto cartridges, sufficient for up to 10 experiments to be used with the Alto Carboxyl Surfacing Kit. Available immobilization buffers include: 10 mM Sodium Acetate, pH 4.0 10 mM Sodium Acetate, pH 4.5 10 mM Sodium Acetate, pH 5.0 10 mM Sodium Acetate, pH 5.5 10 mM MES, pH 6.0	1x 1.5 mL	ALTO-R-IMB-4.0 ALTO-R-IMB-4.5 ALTO-R-IMB-5.0 ALTO-R-IMB-5.5 ALTO-R-IMB-6.0

Accessories

Product Name	Description	Quantity	SKU
Optics Gel	The Optics Gel is for use with the Alto Quality Control Cartridge. It is applied to the cartridge prior to running system diagnostics. Comes in a 3 cc volume.	1x 3 cc	ALTO-OPTG
Optics Service Cartridge	The Optics Service Cartridge is used for maintenance and calibration of the optics system in the Alto instrument. Note this item may have a long order lead-time - to inquire please contact support@nicoyalife.com.	1	ALTO-OSC
Optics Service Cartridge Replacement Wipes	Replacement wipes are used to maintain the performance of the Optics Service Cartridge for it to effectively clean and calibrate the Alto Instrument. Each wipe is good for 5 uses, and is provided in a package of 6.	Pack of 6	ALTO-OSC-WIPES
Quality Control Cartridge	The Quality Control Cartridge is used for running system diagnostics on the Alto instrument. Note this item may have a long order lead-time - to inquire please contact support@nicoyalife.com.	1	ALTO-QCC

Find a Distributor

Distributors

Region	Company Name	Contact
Australia & New Zealand	Millennium Science | Jomar Life Research	info@jlresearch.com.au +61 3 9764 2566 Product Manager: Sebastian Judd-Mole sjuddmole@mscience.com.au +61 (0) 456 270 701
Austria, Slovenia and Croatia	Prager Elektronik GmbH	office@prager-elektronik.at +43 2245 6725 Product manager: Thomas Schuster t.schuster@prager-elektronik.at +43 2245 6725
Benelux	Westburg Life Sciences	info@westburg.eu (+31) 33-495-0094 Product Manager: Martijn Rotteveel m.rotteveel@westburg.eu +31 65-324-8736
Brazil	Uniscience	info@uniscience.com.br +55 11 3622.2320 Sales Manager: Dr. Rebeca Barros rebeca.barros@uniscience.com.br +55 (11) 3622.2340
Bulgaria, Georgia, Macedonia & Serbia	ELTA 90 M	office@elta90.eu +359 983 96 49 Product manager Bulgaria: Magdalena Velyanova magdalena@elta90.eu +359 87 634 1965 Product Manager Serbia: Filip Petrovic filip.petrovic@elta90ms.com +381.11.28.32.650 Product Manager Macedonia: Zorica Nikolova zorica.nikolova@elta90mm.mk
China, Hong Kong, Macau	Hangzhou Neoline Technology Co., Ltd.	neoline@nl17.com +86-0571-86800217 Product Manager: Fanwei (Castiel) Meng fwmeng@nl17.com +86-18667018195
Estonia, Latvia & Lithuania	Genmedica	info@genmedica.eu Office: +371 66 119 593 Product manager: Mihails Sarkisovs mihails@genmedica.eu +371 66 119 593
France	Proteigene	info@proteigene.com +33 (0)2 32 64 45 45 Product manager: Oliver Leroy leroy@proteigene.com +33 (0)6 71 27 21 59

Region	Company Name	Contact
Germany	BioCat GmbH	«info@biocat.com +49 6221 714 15 16 Product Manager: Sieke Schaepe Schaepe@biocat.com +49 6221 714 15 16
India	Basil BioSolutions	Product Manager: Rajesh Nair rajesh.nair@basilbio.com Sales Manager: Sandeep Shetty sales@basilbio.com +91 8029507644
Israel	Lifegene	info@lifegene.co.il +972-(0)8-644-4314 Product manager: Ron Zipor ron@lifegene.co.il +972-(0)58-671-0979
Italy	Automation Srl	sales@automation.it +39 02 94963972 Product Manager: Daniele Zanellato daniele.zanellato@automation.it +39 348 3584144
Japan	Restar Communications Corporation	Product Manager: Kazuki Hagiya lifescience@restarcc.com +81 (3) 57815130
Pakistan	Maxtech Corporation	Product Manager: Ghulam Mujtaba info@maxtech.com.pk +92 (042) 3637 1818
Saudi Arabia, Oman, UAE, Bahrain and Qatar	Gulf Bio Analytical Group	contactus@gulfbioanalytical.com UAE - 800 2255 422 KSA - 800 11 61110 Product manager: Gaurav Sananse gaurav_s@gulfbioanalytical.com +971 50 131 2336
South Africa	Whitehead Scientific	whitesci@whitesci.co.za +27 21 944 6460 Product Manager: Sanisha Muniram Deonanan sanisha@whitesci.co.za +27 11 894 2214
South Korea	HS Biosystems	hs@hsbiosystems.co.kr +82-31-628-3170 Product Manager: Dogeun Yoon dg.yoon@hsbiosytems.co.kr +82-10-8634-2937

Region	Company Name	Contact
Spain and Portuga	Isaza Scientific	Spain: izasa@izasascientific.com +34 902 20 30 80 Portugal: izasapt@izasascientific.com +351 800 787 888 Product Manager: Miguel Formoso maformoso@izasascientific.com +34 650 872 661
Sweden, Denmark, Norway & Finland	Kem-En-Tec	info@kem-en-tec-nordic.com +45 3927 1777 Product manager: Håkan Rundgren hr@kementec.com Office: +46 18 14 90 00 Mobile: +46 18 14 90 02
Switzerland	Witec AG	mail@witec.ch +41 250 53 57 Product manager: Nikola Djoric nikola.djoric@witec.ch +41 250 53 57
Thailand, Taiwan, Singapore, Malaysia, Indonesia, Vietnam & the Philippines	DKSH	Product Manager for all inquiries: James Hsu james.hsu@dksh.com +886 905 559 375 Taiwan: Whitney Lin lab.tw@dksh.com Singapore: Calvin Wong calvin.pq.wong@dksh.com Vietnam: Mai ThiXuan Nguyen mai.quynh.nguyen@dksh.com Thailand: Thikamporn Porsoongnoen thikamporn.tp@dksh.com Indonesia: Alfan Afzalur afzalur.alfan@dksh.com Malaysia: Jasmine Keller jasmine.keller@dksh.com Philippines: Lisa Capsa lisa.capsa@dksh.com
United Kingdom	Merrow Scientific	info@merrowscientific.com +44 1483 600867 Product Manager: Felix Schaebbicke felix@merrowscientific.com +44 7957 541686

Join us on our mission to
improve human life

info@nicoyalife.com
1-877-673-6777
www.nicoyalife.com