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# LIFE SCIENCES INSTRUMENTS CATALOG

 LIFE SCIENCES DIVISION

**MAXTECH CORPORATION**

Analytical, Environmental, Material Testing & Life Sciences Equipment

## TABLE OF CONTENTS

Page #

### OUR PRINCIPALS

3



Nicoya Lifesciences Inc.

3

Surface Plasmon Resonance (SPR)

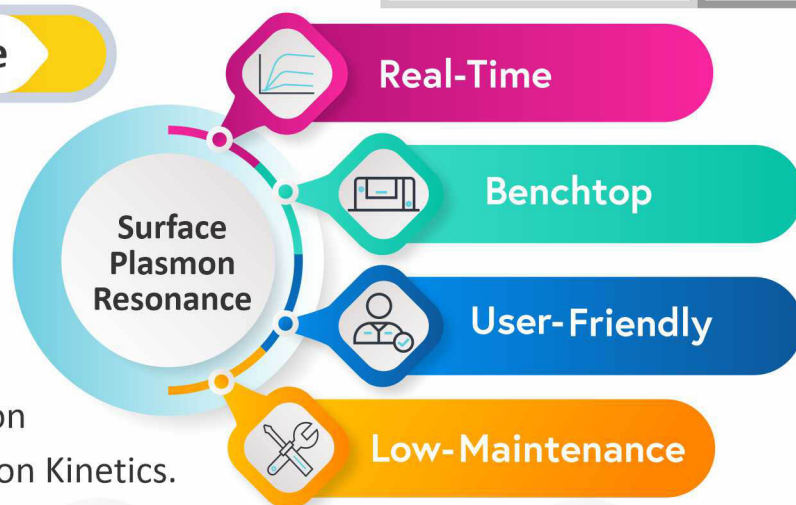
## NICOYA LIFESCIENCES INC - CANADA

 nicoya



### Surface Plasmon Resonance

SPR is an Optical Biosensing Technology using Label-Free technique, applied to detect characteristics and quantification of biomolecular interactions. It allows determination of both Binding Affinity and Reaction Kinetics.



### Applications

- Kinetics/Affinity Characterization
- Kinetics/Affinity Screening
- Competition Assays
- Yes/No Binding
- Concentration Analysis
- Thermodynamics
- Epitope Mapping/Binning

### Compatible With

- Proteins
- Antibodies
- Nucleic Acids
- Aptamers
- Small Molecules (application dependent)
- Carbohydrates
- Lipids
- Cells
- Viruses
- Nanoparticles

### Sensors & Surface Chemistries

- Carboxyl
- NTA
- Streptavidin
- Biotin
- Protein A
- Amine
- Liposome Binding
- Hydrophobic
- Gold



## NICOYA LIFESCIENCES INC - CANADA



### SPR Instruments

#### OpenSPR System

(Obtain publication-quality binding kinetics & affinity data on your benchtop)

The world's only benchtop surface plasmon resonance (SPR) instrument. It provides high quality, label-free interaction analysis for a fraction of the cost of existing solutions.



Hardware	
No of Channels	2
Injection	Semi-Automated
Autosampler	Optional upgrade to OpenSPR-XT
Sample Volume	Injection volume + 50 $\mu$ L

#### OpenSPR-XT System

(Integrated with robust autosampler)

OpenSPR-XT is built with our cutting-edge and affordable nanotechnology biosensor platform. It has been seamlessly integrated with our robust autosampler system to allow for fully automated, 24/7 operation.



Hardware	
No of Channels	2
Injection	Automated
Sample Volume	200 $\mu$ L
Sample Capacity	2x 96 well plates
Unattended Run Time	24 hours

#### Alto System

(The first ever Digital microfluidics -powered SPR system, with 120 hours unattended run time)

The world's first SPR instrument to integrate digital microfluidics (DMF) with nanotechnology-based biosensors. DMF technology enables all fluidics to be disposable, allowing for precise handling of 2 $\mu$ L sample volumes, crude sample compatibility and zero fluidics maintenance.



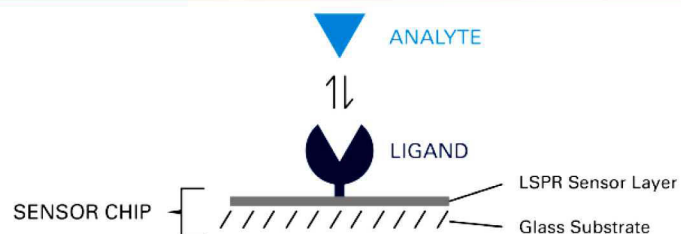
Hardware	
Association Rate (kon)	Up to $1 \times 10^9$ 1/M*s
Dissociation Rate (koff)	$1 \times 10^{-5}$ - 1.0 1/s
Affinity Range (KD)	$1 \times 10^{-12}$ - $1 \times 10^{-4}$ (M)
Core Detection Technology	Localized SPR fiber optic biosensors
Data Channels	16
Analytes	Up to 64 analytes/cartridge
Sample Volume	2 $\mu$ L
Reference:Standard	1:1 standard - any combination possible
Dilutions	Automated serial dilutions
Interaction time	30 sec - 4 hours
Unattended Run Time	24 hours

## NICOYA LIFESCIENCES INC - CANADA

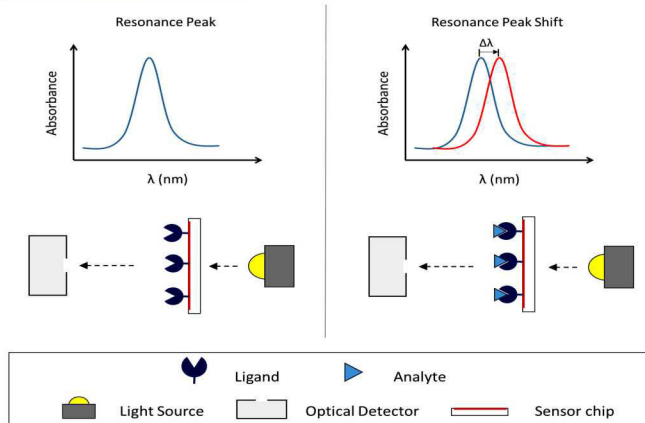


### Label-Free Interaction Analysis

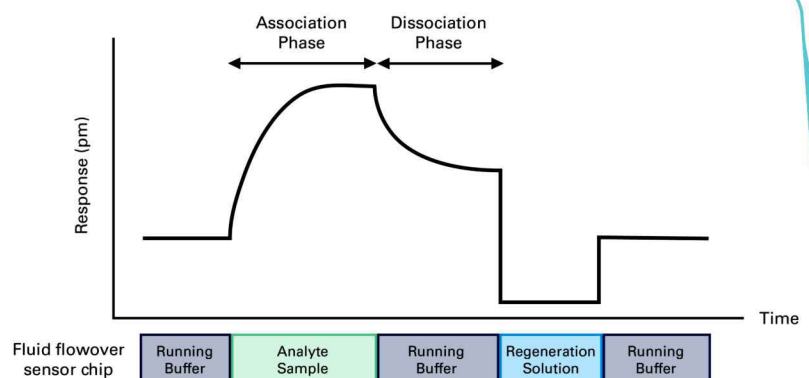
A cross-section of a ligand-analyte interaction occurring on an SPR sensor.



SPR detects binding events by measuring small changes in the wavelength of the absorbance position.



### Binding Kinetics: Analyte Binding Curve





ANALYTICAL DIVISION



ENVIRONMENTAL DIVISION



MATERIAL TESTING DIVISION



LIFE SCIENCES DIVISION

# MAXTECH CORPORATION

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