**BIACORE (3000, GE Healthcare)**



***The Biacore 3000 system enables the comprehensive characterization of the biomolecular interactions, like Quantitative kinetic analysis (rate constants), Quantitative determination of affinity constants, Concentration determination, Determination of binding specificity and Thermodynamic measurements***

**Specifications:**

**1. Concentration measurement (**For analysis times <15 minutes, precision ≤5% CV dose)

***High molecular weight analytes (104 -106 g/mole)***

a. Direct assay typically 10-5 - 10-9 M

b. Sandwich assay typically 10-3 - 10-11 M

***Low molecule weight analytes ( <5000 g/mole)***

Inhibition assay typically 10-3 - 10-9 M

**2. Affinity measurements at equilibrium**

KA typically 104 - 1011 M-1

**3. Kinetic measurements**

High molecular weight analytes (104 -106 g/mole)

Ka: typically 103 - 107 M-1 s-1 and kd : typically 10-1 - 5 × 10-6 s-1

**4. Detection Unit**

Light source LED (Light Emitting Diode)

Wavelength 760 nm; Band width < 5 nm; Refractive index range 1.33-1.40 (0-70,000 RU)

Baseline drift typically < ±0.3 RU/minute

**5. Data output**

Noise typically < 0.3 RU RMS (10 Hz) : < 0.1 RU RMS (1 Hz)

Temperature range 4 - 40 °C (not lower than 20 °C below ambient temperature)

Temperature stability Better than ±3 × 10-3 °C/min

Temperature accuracy < ±0.5 °C (entire temp. range): < ±0.1 °C at 25 °C

**6. Pumps**

Flow rate range 1-5000 µl/min: (1-100 µl/min user-controlled) at an Increments Steps of 1 µl/min

Flow rate accuracy < ±2%: (1-100 µl/min, liquid at 25°C)

Flow rate precision < 1%: (1-100 µl/min, liquid at 25°C)

Pressure range < 0.2 MPa

**7. Integrated µ-Fluidic Cartridge (IFC)**

Flow cells number: 4

Injection volume to flow cell : 5 -750 µl, steps of 1 µl

Sample loop capacity 120 µl

**8. Autosampler**

Dispensing volume range 5-500 µl (including air segment)

Increments Steps of 1 µl

Accuracy < 1% deviation for volumes ≥50 µl

Precision

50 µl < 0.4% CV and 5 µl < 2% CV

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**Accessories**

* **Autosample vial kit**
* **Glass vials 16mm**
* **Plastic vials and cap 2ml**
* **Plastic vials 7mm**