



# QSense Sensors for Assessment of Biopharmaceutical Stability and Material Compatibility

The QSense® sensor package for Biopharma mimics the surface properties of materials used in the biopharmaceutical industry, such as plastic packaging, glass containers, pre-filled syringes, and IV bags. These sensors enable drug-surface interaction analysis, allowing early assessment of material compatibility and stability during drug formulation. Additionally, they also support the study of antibody/excipient interactions with surfaces used in production, storage, and administration of biopharmaceutical products.



## Suggested Sensors

- SS2343 Stainless steel (similar to AISI 316)
- Borosilicate glass
- PDMS (Silicone oil)
- PTFE (Amorphous polymer)

## QSense QCM-D in Biopharma

The QSense QCM-D method enables evaluation of surface adsorption and desorption processes, as well as changes in the structure of adsorbed layers, that may occur throughout the lifecycle of the pharmaceutical drug.

### What can you measure?

- How much antibody adsorbs to different surface materials?
- How are the molecules arranged at the surface?
- What surfaces may cause incompatibility issues?
- How does an excipient impact antibody adsorption?
- How do changes in concentration, pH, temperature, surface material, or surfactant type affect the adsorbed amount?

Sensor Name	Material	Delivery Time	Application
QSX 304 - SS2343	Stainless Steel (SS2343)	1 week	Surgical instruments, Medical implants, Sterilization trays and containers
QSX 336 - Borosilicate	Borosilicate Glass	4-6 weeks	Container glasses
QSX 305 - PS	Polystyrene	4-6 weeks	Petri dishes, Disposable labwares, Microspheres, Containers
QSX 331 - AF	Amorphous Fluoropolymer	4-6 weeks	Medical tubing, Liners, Bio-coating
QSX 348 - PDMS	Polydimethyl Siloxane	4-6 weeks	Pre-filled syringes, Gaskets, Protective coatings
QSX 350 - PP	Polypropylene	4-6 weeks	Medical packaging, IV bags, Syringes
QSX 351 - LDPE	Low-density Polyethylene	4-6 weeks	
QSX 352 - PVDF	Polyvinylidene Fluoride	4-6 weeks	Seals and Leainers, Catheters and tubings, Surgical sutures
QSX 353 - COP	Cyclo Olefin Polymer	4-6 weeks	Syringes, IV bags, Microfluidic devices
QSX 900 - PMMA	Polymethyl Methacrylate	4-6 weeks	Blister packs, Syringes and Vials
QSX 900 - HDPE	High Density Polyethylene	4-6 weeks	Medical packaging, IV bags, Containers
QSX 900 LLDPE	Linear-low-density Polyethylene	4-6 weeks	
QSX 900 - PVC	Polyvinyl Chloride	4-6 weeks	Medical tubing, IV bags, Surgical gloves
QSX 900 - PES	Polyethersulfone	4-6 weeks	Vials, Blister packaging
QSX 900 - PU	Polyurethane	4-6 weeks	Catheters, Medical adhesives
QSX 900 - PC	Polycarbonate	4-6 weeks	IV bags, Surgical instruments, Blood oxygenators
QSX 900 - PMP	Polymethylpentene	4-6 weeks	Sterilization trays, Medical packaging
QSX 900 - EVA	Ethylene-Vinyl Acetate	4-6 weeks	IV bags, Medical packaging
QSX 900 - COC	Cyclo Olefin Copolymer	4-6 weeks	Medical packaging, Labware

## About us

At Biolin Scientific we are committed to empower professionals in Surface and Interface science and engineering to reach outstanding results faster and easier. Our instruments and sensors are tailored for advanced analysis of thin film properties and surface and interface phenomena at the nanoscale. Trusted by top universities and industrial labs worldwide, our premium solutions help solve complex challenges and drive progress in scientific research and product development.

### Biolin Scientific AB

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