Q-Sense His-tag Capturing Sensor

Immobilizing molecules on a surface is a successful approach for label-free studies of biomolecular interactions. Q-Sense His-tag Capturing Sensor, QSX 340, enables immobilization of His-tagged recombinant proteins. The His-residues display a high-affinity for the Cu^{2+} ions on the sensor surface.

- His-tagged molecule of interest
- Maximum access to protein interaction site by controlled steric orientation
- Surface regeneration possible
- Usage include antibody optimization, protein-protein interactions and probing of conformational changes

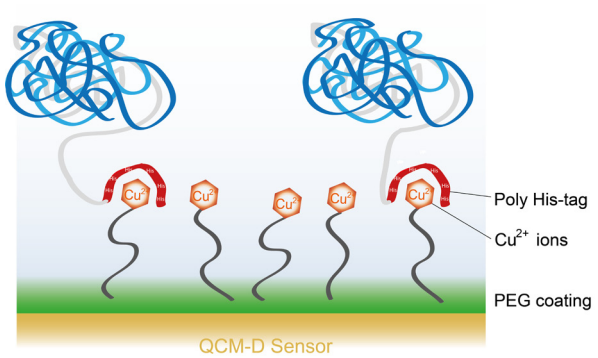

Figure 1 The Q-Sense His-tag Capturing Sensor consists of chelated Cu^{2+} ions coupled to a passivating PEG background coating. Some areas of use include antibody optimization, protein-protein interactions and probing of conformational changes.

Recombinant proteins are often synthesized with an N-terminal or C-terminal hexa-histidine tag (His-tag) to aid in purification from the cell lysate. The His-tag can be used as a convenient and robust way of immobilizing the protein of interest in an oriented and functional manner on a sensor surface.

Sensor Specifications

Surface chemistry	Poly (ethylene glycol) (PEG) 3 nm coating and functionalization with a 10^3 -10^4/cm^2 density of Cu^{2+} ions.
Sensor base	SiO_2
Binding	The Poly-histidine tag displays a high affinity towards M^{2+} ions such as Cu^{2+}. The binding can be reversed by injection of EDTA.
Specificity	The zero-background PEG coating eliminates non-specific binding.
Usage	Direct mounting into the instrument from the box without prior cleaning.
Storage	Stable > 8 weeks from package date when stored in original vacuum-bag at -20 to -80 °C. Opened sensors should be stored in vacuum desiccator or in 100% nitrogen environment.

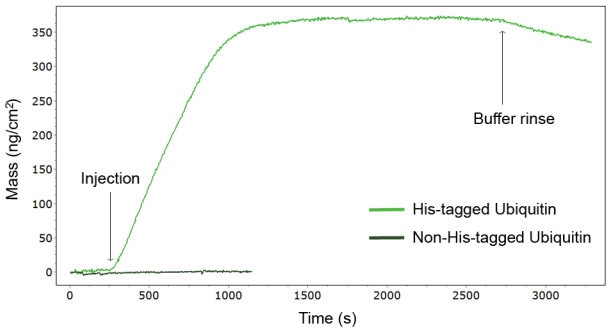

Figure 2 N-terminally His-tagged Ubiquitin (0.6 µM) was immobilized onto the His-tag Capturing Sensor. No binding was seen for non-His-tagged Ubiquitin. Further analysis of immobilized Ubiquitin was done by injection of an antibody for Ubiquitin (not shown here).

www.q-sense.com

Headquarters and Scandinavia sales: BiolinScientific AB, Q-Sense, Hängpilsgatan 7, 426 77 V. Frölunda, Sweden, Phone +46-31 769 769 0, info@q-sense.com / sales@q-sense.com. **North America**: Biolin Scientific, Inc., +1-877 773 6730, sales@q-sense.com. **UK/IE**: Biolin Scientific, +44-7530879037, daniel.slater@biolinscientific.com. **Our distribution partners are**: Analytical Technologies PTE Ltd, ATA Scientific, Auro-Science Consulting Kft., Beijing Honoprof Sci & Tech Ltd, Chromspec spol. s r.o., dpUNION Instr. Analit.e Cientifica Ltda., Hucom Systems Inc., Iberlaser S.A., KULIM HI-TECH Sdn. Bhd., LOT-Oriel Benelux, LOT-Oriel France, LOT-Oriel GmbH & Co., LOT-Oriel Suisse, LOT-Oriel Poland, Meiwafosis Co., Ltd., Nordtest s.r.l., Paralab., SEPADIN SRL, Specialise Instruments Marketing Company, Terralab Laboratuvar Malz. San. Ve Tic. A.S., Valtex-Rus LLC Moscow, New-Road Agencies Ltd, Advantage Scientific Inc.

qsense®