

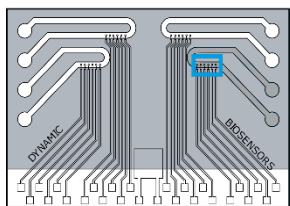
switchSENSE® Biochip ENZ-80-1-R1-S

Product Description

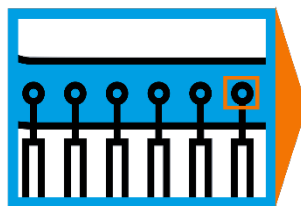
| | |
|--------------|---|
| Product Code | ENZ-80-1-R1-S |
| Suitable for | switchSENSE® DRX ^{red} & DRX ² |
| Storage | Store at 2-8 °C, dry in the dark |
| Layout | Each spot, nanolever with same sequence and fluorescent dye |
| Grade | Standard |

Enzyme chips are designed to analyze the activity of polymerases and nucleases. Elongation rates, exo- or endonuclease activity, hot start properties, and many other parameters can be characterized.

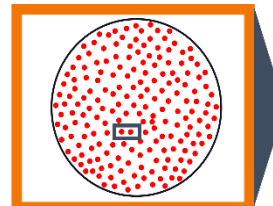
Biochip Design



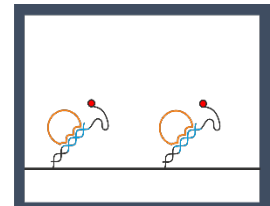
Biochip with 4 flow channels, each with multiple detection spots in series



6 detection spots in 1 flow channel



Each detection spot: nanolevers with red fluorescent dyes

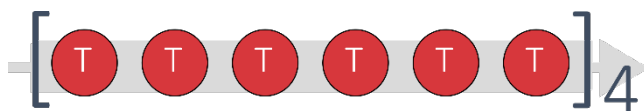


Nanolevers with the same sequence and fluorescent dye

The detection spots are functionalized with one nanolever NL-T54. The 3'-end of the DNA is fixed on the surface while the 5'-end carries a red fluorescent dye.

Biochip Layout I Flow channels with 6 single sequence (T) spots

With 6 single sequence spots, the electrode functionalization features replicates in favor of better measurement statistics.



For more information about the DNA sequences, please contact us at info@dynamic-biosensors.com.

DNA for the Biochip

Each Biochip comes with unmodified complementary DNA:

cNL-P48T80 (500 µL, c = 1 µM)

cNL-P80T80 (500 µL, c = 1 µM)

Application Areas

| | |
|---|---|
| <i>Binding Kinetics*</i> | k_{on}, k_{off}, K_D |
| <i>Binding Affinity*</i> | $K_D, \text{titration curve}, n \text{ (Hill coefficient)}$ |
| <i>Protein Diameter*</i> | $D_H \text{ (Hydrodynamic diameter)}$ |
| <i>Conformational Change*</i> | $\Delta D_H \text{ (relative change of hydrodynamic diameter)}$ |
| <i>Melting & Thermodynamics*</i> | $T_M, \Delta G, \Delta H, \Delta S$ |
| <i>Multimers & Aggregation*</i> | <i>Monomer-dimer discrimination, aggregation</i> |
| Nuclease & Polymerase Activity | $K_{cat}, K_M, T_{activate}$ |
| <i>Bispecific Binders & Avidity*</i> | <i>Binding affinity/avidity/kinetics</i> |

** for this application, other biochips (MPC or BIF) are recommended*

Biochip Handling

The biochip is ready to use. For research only.

Avoid touching or picking up the biochip with your hands as this may cause bilayer electrostatic discharge. Instead, always use the vacuum tweezers provided with the instrument when handling the biochips.

After installing the biochip in the DRX instrument and before starting an experiment be sure that the selected channel is passivated with passivation solution (Order No. SOL-PAS-1-5).

More information about biochip storage and handling can be found in the document “switchSENSE Biochips Storage Information”.

Grade I Standard

Standard grade chips are batch tested which means one out of a batch undergoes a comprehensive quality control – proper switching dynamics, calibration (voltage-response of the DNA layer) and fluorescence levels. In addition each biochip is tested for proper fluorescence levels on each electrode. Due to the production process, not all detection spots fulfill our high quality standards. Each standard grade biochip is certified as having 20 or more active detection spots.

Compatible Functionalization Kits

All compatible functionalization kits for this biochip are listed on our website:

www.dynamic-biosensors.com/reagents/

Contact

Dynamic Biosensors GmbH
 Lochhamerstr. 15
 82152 Martinsried/Planegg
 Germany

Dynamic Biosensors Inc.
 9705 Carroll Centre Road, Suite 100
 San Diego, CA 92126
 USA

Order Information

Phone: +49 89 89 74 544 0
 order@dynamic-biosensors.com

Technical Support

Phone: +49 89 89 74 544 66
 support@dynamic-biosensors.com