

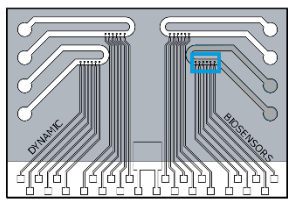
## switchSENSE® Biochip MPC2-48-2-G1R1-S

### Product Description

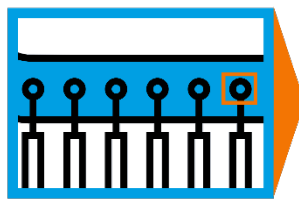
|              |  |
|--------------|--|
| Product Code | MPC2-48-2-G1R1-S                                   |
| Suitable for | switchSENSE® DRX <sup>red</sup> & DRX <sup>2</sup> |
| Storage      | Store at 2-8 °C, dry in the dark                   |
| Layout       | Each spot, mixture of nanolevers A and B           |
| Grade        | Standard   |

Multi-purpose chips are versatile tools to analyze protein-protein, protein-small molecule, DNA/RNA-protein and DNA/RNA-small molecule interactions.

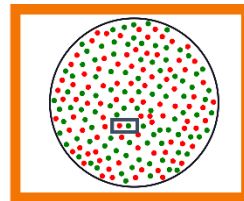
### Biochip Design



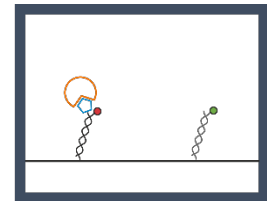
Biochip with 4 flow channels, each with multiple detection spots in series



6 detection spots in 1 flow channel



Each detection spot: nanolevers with red fluorescent dyes

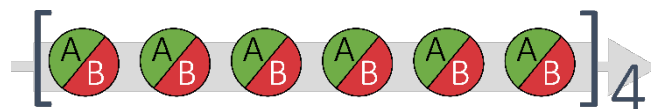


Nanolevers with the same sequence and fluorescent dye

The detection spots are functionalized with two different nanolevers, NL-A48 and NL-B48. The 5'-end of the DNA is fixed on the surface while the 3'-end carries a fluorescent dye, either a green one (G1) on NL-A48 or a red one (R1) on NL-B48.

### Biochip Layout I Flow channels with 6 double (A, B) spots (real-time on-spot referencing or sophisticated assays)

MPC2 biochips carry a mixture of two nanolever populations (red & green) on the same sensor spot. Use one nanolever as the target and the other as the control for absolute data confidence or use this set-up to investigate more complex and challenging issues.



For more information about the DNA sequences, please contact us at [info@dynamic-biosensors.com](mailto:info@dynamic-biosensors.com).

### DNA for the Biochip

Each Biochip comes with unmodified complementary DNA:

cNL-A48 (500 µL, c = 1 µM)

cNL-B48 (500 µL, c = 1 µM)

## Application Areas

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

*\* for this application, other biochips (ENZ 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 biolayer 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/](http://www.dynamic-biosensors.com/reagents/)

## Contact

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