dynamic BIOSENSORS HK-SA-1 v6.1 Biotin Capture Kit User Manual

Contents

dynamic BIOSENSORS HK-SA-1 v6.1 Biotin Capture Kit

Product Specifications

- **Product Name:** heliX+ BIOTIN CAPTURE KIT with red dye Ra
- **Order Number:** HK-SA-1
- **Key Features:**
  - 2 spots with 2 different anchor sequences for DNA-encoded addressing
  - Spot 1 functionalized with the capture molecule
  - Spot 2 used as real-time reference

Product Description

This product is designed for research use only. It consists of ligand strands, adapter strands, and a capture molecule with specific concentrations and storage requirements. The product has a limited shelf life and should be used within 3 months after preparation of the solution.

Preparation

To prepare for assay setup in heliOS, follow these steps:

1. Go to heliOS and create a New Assay Workflow
2. Add Custom Assay and load Capture with Kinetics
3. Modify the parameters based on your needs and run the assay

Assay Setup in heliOS

Suggested assay parameters such as flow rate, time, and LED power are within the heliOS assay. Streptavidin can bind multiple ligands per nanolever, leading to avidity effects when measuring multispecific analytes. Consider using the conjugation approach in such cases.

Contact Information

- For further questions or technical support, please contact Dynamic Biosensors at:
- **Email:** support@dynamic-biosensors.com
- **Website:** www.dynamic-biosensors.com
- **Address:**
  - Dynamic Biosensors GmbH Perchtinger Str. 8/10 81379 Munich Germany
  - Dynamic Biosensors, Inc. 300 Trade Center, Suite 1400 Woburn, MA 01801 USA

Useful Order Numbers

- Chip with 2 detection spots: Order No ADP-48-2-0
- For passivation of chip surface: Order No SOL-PAS-1-5
- For regeneration of chip surface: Order No SOL-REG-1-5

FAQ

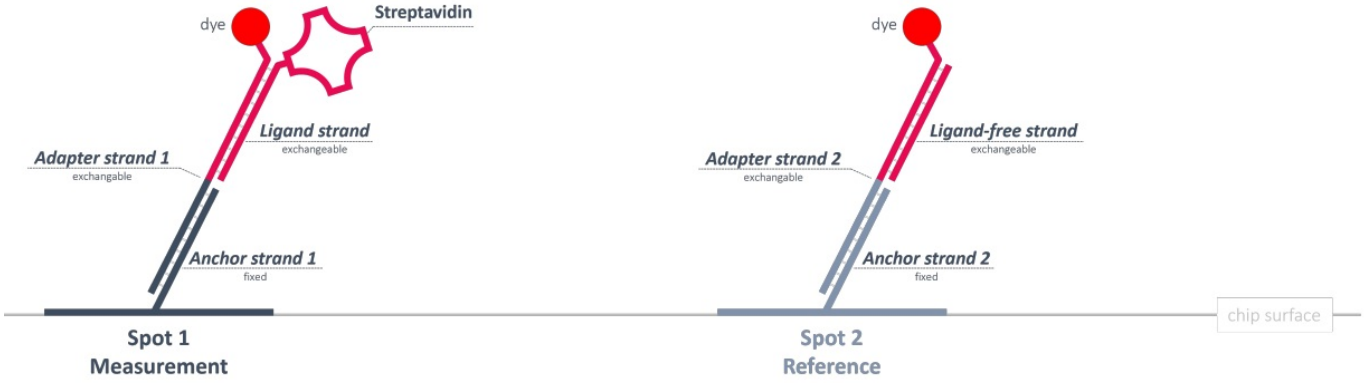
- **What is the shelf life of the product?**
  The product has a limited shelf life, and it should be used within 3 months after preparation of the ready-to-use solution.
- **How can I regenerate the chip surface?**
  Surface regeneration can be done by injecting a high pH solution. This process restores the chip surface to its original state.

Key Features

- This kit is designed for capture of biotinylated molecules using Streptavidin.
- Compatible with heliX® Adapter Chip.
- Includes Adapter strands and Ligand strand modified with Streptavidin for 20 regenerations.
- For functionalization of Spot 1 and Spot 2.
- Adapter strands 1 and 2 carry a moderately hydrophilic red dye (Ra) with a single positive net charge.

heliX® Adapter Chip Overview

2 spots with 2 different anchor sequences for DNA-encoded addressing. Spot 1 is functionalized with the capture molecule while Spot 2 is used as real-time reference.



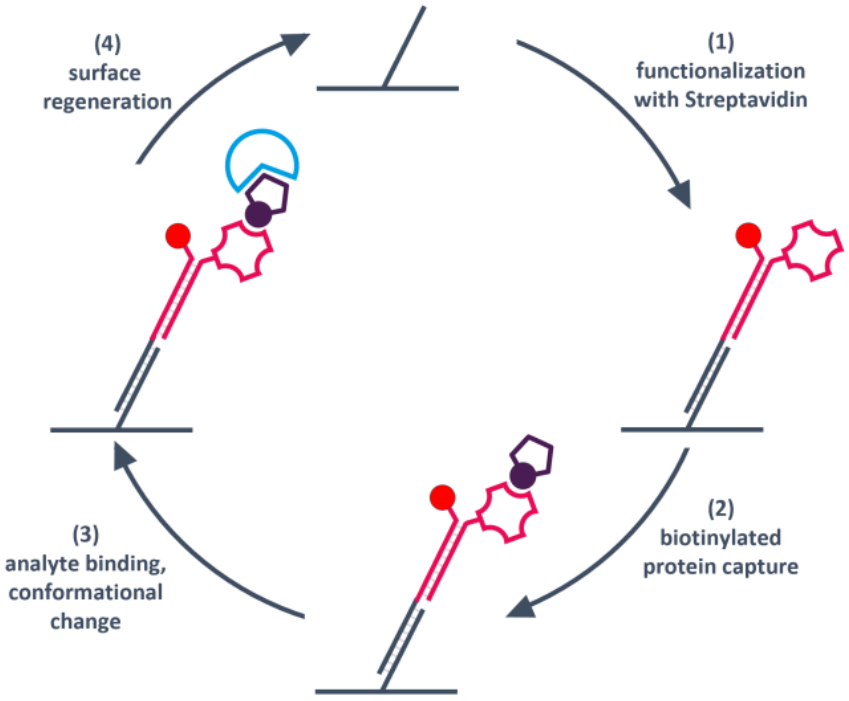
Product Description

Order Number: HK-SA-1

Material	Cap	Concentration	Amount	Buffer	Storage
SA – Ligand strand	Green	500 nM	2 x 100 µL	TE40 [1]	2-8°C
Adapter strand 1 – Ra	Black	400 nM	2 x 100 µL	TE40 [1]	-20°C
Adapter strand 2 – Ra – Ifs	White	200/250 nM	2 x 200 µL	TE40 [1]	-20°C

For research use only.
This product has a limited shelf life, please see expiry date on label.
After preparation of ready to use solution the expiry date is 3 months.

Workflow of a heliX® SA – capture assay



1. The anchor strand (ssDNA) immobilized to the surface of the heliX® Adapter Chip is hybridized with complementary DNA strands modified with Streptavidin.
2. The biotinylated ligand of interest is captured on the surface during the measurement run.

3. Measurement of the analyte binding kinetics or conformational change upon analyte binding.
4. Surface regeneration by injection of a high pH solution. Chip surface goes back to the original state. This step can be followed by a new hyridization of fresh ligand with Streptavidin.

Preparation

1. Mix 100 µL SA – Ligand strand with 100 µL Adapter strand 1 – Ra.
2. Incubate the solution of step 1 at RT at 600 rpm for 30 min to ensure complete hybridization.
3. Mix 200 µL Adapter strand 2 – Ra – lfs to the sample after step 2.

- The solution (400 µL in total) is ready to use for a biochip functionalization.
- Please aliquot and store the ready to use solution at 2-8°C. Use up within 3 months.
- The kit contains material for the preparation of two separate ready to use solutions with 400 µL each.

Assay Setup in heliOS

- Go to heliOS > create a New Assay Workflow > add Custom Assay > load Capture with Kinetics > modify the parameters based on your needs and run the assay.
- Suggested assay parameters (e.g., flow rate, time, LED power, etc.) are within the heliOS assay.
  TIP As streptavidin owns four different binding sites, multiple ligands can be captured per nanolever, leading to avidity effects when measuring multispecific analytes. If the case, consider using the conjugation approach.
- For further questions, please contact the support team at **support@dynamic-biosensors.com**.

Useful Order Numbers

Product Name	Comment	Order No
heliX® Adapter Chip	Chip with 2 detection spots	ADP-48-2-0
10x Passivation solution	For passivation of chip surface	SOL-PAS-1-5
Regeneration solution	For regeneration of chip surface	SOL-REG-1-5

Contact

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  Germany
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- **Order Information** order@dynamic-biosensors.com
- **Technical Support** support@dynamic-biosensors.com
- www.dynamic-biosensors.com

Instruments and chips are engineered and manufactured in Germany.

Documents / Resources

	dynamic BIOSENSORS HK-SA-1 v6.1 Biotin Capture Kit [pdf] User Manual HK-SA-1, v6.1, HK-SA-1 v6.1 Biotin Capture Kit, HK-SA-1 v6.1, Biotin Capture Kit, Capture Kit, Kit

References

- HomePage | Biosensors International Ltd
- Home - Dynamic Biosensors
- Home - Dynamic Biosensors
- User Manual