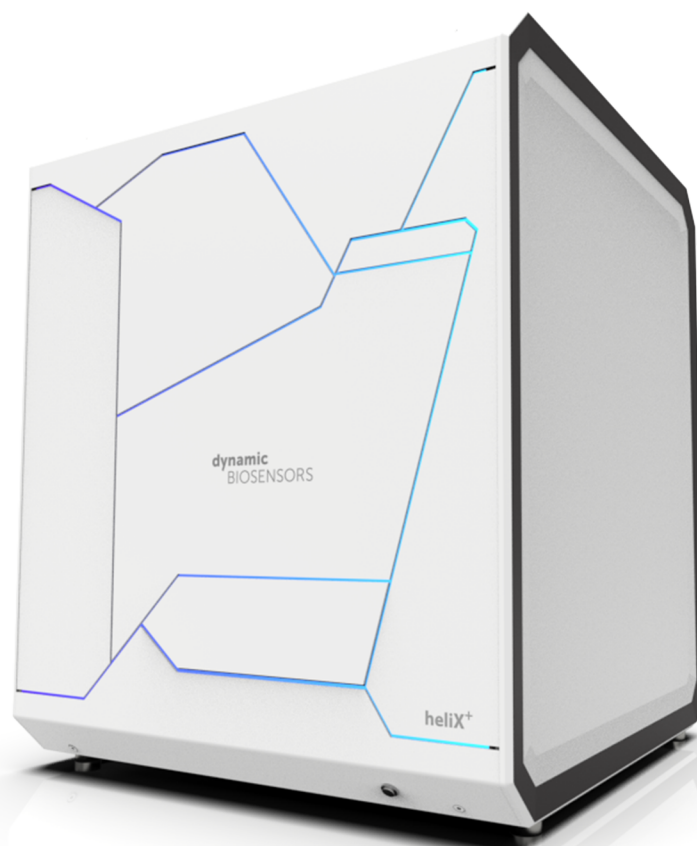


HIS CAPTURE KIT

with red dye **Ra**

Dynamic Biosensors GmbH & Inc.
HK-NTA-1 v4.1

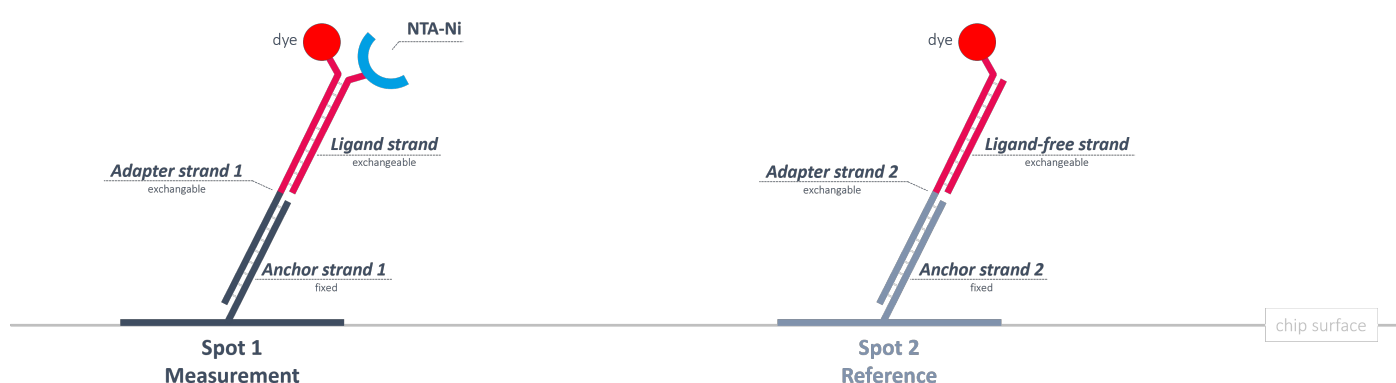


Key Features

- This kit is designed for capture of **histidine-tagged proteins** (His6 or His10) using **Tris-NTA**.
- Compatible with **heliX[®] Adapter Chip**.
- Includes **Adapter strands** and **Ligand strand** modified with Tris-NTA 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-NTA-1**

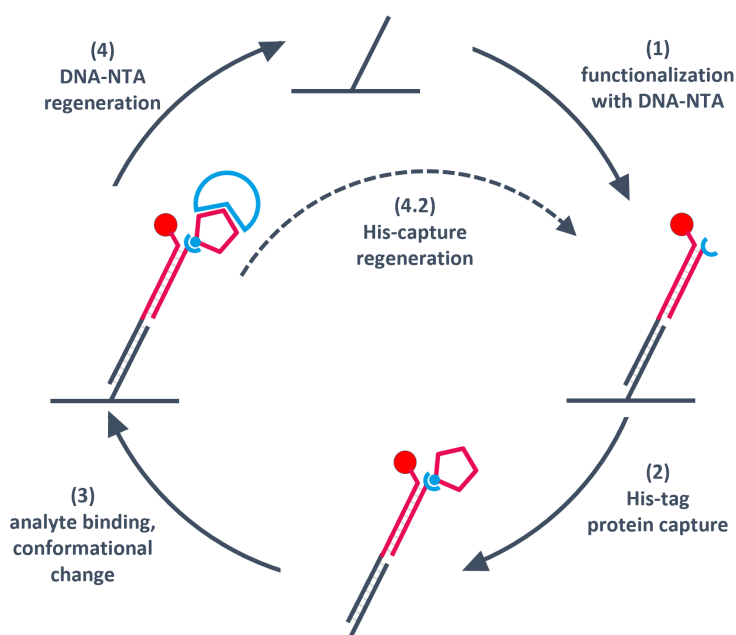
Table 1. Contents and Storage Information

Material	Cap	Concentration	Amount	Buffer	Storage
NTA - Ligand strand	Red	500 nM	2 x 100 µL	TE40 ^[1]	-20°C
Adapter strand 1 - Ra	Black	400 nM	2 x 100 µL	TE40 ^[1]	-20°C
Adapter strand 2 - Ra - lfs	White	200/250 nM	2 x 200 µL	TE40 ^[1]	-20°C
Loading Solution (NiCl₂)	Transparent	10 mM	5 x 1500 µL	TE40 ^[1]	-20°C
Imidazole Solution	Transparent	250 mM	10 x 2000 µL	TE140 ^[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 **6 months**.

Workflow of a heliX[®] His - capture assay



1. The anchor strand (ssDNA) immobilized to the surface of the **heliX[®] Adapter Chip** is hybridized with complementary DNA strands modified with **Tris-NTA** (Nitrilotriacetate).
2. NTA-DNA surface is activated by loading with divalent nickel ions. **His-tagged protein** (ligand) is captured on the surface.
3. Measurement of the analyte binding kinetics or conformational change upon analyte binding.
4. Surface regeneration either by injection of a high pH solution followed by a new hybridization of fresh DNA-NTA or by simple removal of the his-tagged protein via imidazole wash.

Preparation

1. Mix 100 μ L **NTA - Ligand strand** with 100 μ L **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 μ L **Adapter strand 2 - Ra - Ifs** to the sample after step 2.

The solution (400 μ L in total) is ready to use for a biochip functionalization.

Please aliquot and store the ready to use solution at -20°C . **Use up within 6 months.**

The kit contains material for the preparation of two separate ready to use solutions with 400 μ L each.

Assay Setup in heliOS

Go to **heliOS** > create a **New Assay Workflow** > add **Custom Assay** > load **His 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 the stability of his capture is affected by the protein, in case of long dissociations, consider using the conjugation approach.

For further questions, please contact the support team at support@dynamic-biosensors.com.

Useful Order Numbers

Table 2. 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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Instruments and chips are engineered and manufactured in Germany.

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[1] TE40: 10 mM Tris, 40 mM NaCl, 0.05 % Tween20, 50 µM EDTA, 50 µM EGTA

[2] TE140: 10 mM Tris, 40 mM NaCl, 0.05 % Tween20, 50 µM EDTA, 50 µM EGTA