
# dynamic BIOSENSORS HK-EA-2 RNA Enzyme Activity Kit User Manual



Contents



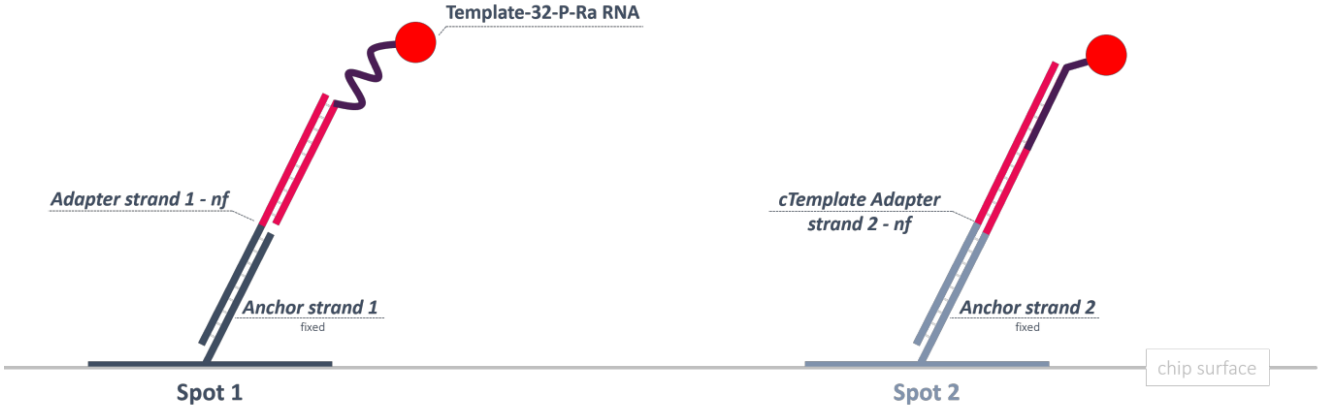
## dynamic BIOSENSORS HK-EA-2 RNA Enzyme Activity Kit


## Key Features

- ssRNA template (48 + 32 bp) for functionalization of heliX
- Adapter Chip on Spot 1.
- dsDNA-RNA template (48 + 32 bp) for functionalization of heliX
- Adapter Chip on Spot 2.
- Compatible with heliX Adapter Chip.
- Includes Adapter strands for 100 regenerations.
- This RNA template carries a moderately hydrophilic red dye (Ra) with a single positive net charge.

## Helix Adapter Chip Overview

- 2 spots with 2 different anchor sequences for RNA-encoded addressing.



## Product Description

**Order Number: HK-EA-2**
**Table 1.** Contents and Storage Information

| Material | Cap | Concentration | Amount | Buffer | Storage |
|---|---|---|---|---|---|
| ***Adapter strand 1 - nf*** / **Template-32-P-Ra RNA** | White | 200/250 nM | 10 x 100 µL | TE40 [1] | -20°C |
| ***cTemplate Adapter strand 2 - nf*** / **Template-32-P-Ra RNA** | Black | 200/250 nM | 10 x 100 µL | TE40 [1] | -20°C |

For research use only.
This product has a limited shelf life, please see the expiry date on the label. To avoid many freeze-thaw cycles please aliquot the nanolever.

## Preparation

**IMPORTANT**
Both Adapter strands are already pre-hybridized. Adapter strand 1 to the Template-32-PRa RNA strand, leaving the upper part as ssDNA, and cTemplate-Adapter strand 2 to the Template-32-PRa RNA strand, leaving Spot 2 completely as dsDNA-RNA. Next, simply mix in the same vial the Adapter strand 1 – nf / Template-32-P-Ra RNA (200/250 nM) and the template Adapter strand 2 – nf / Template-32-P-Ra RNA (200/250 nM) at a 1:1 ratio (v/v). The solution is ready to use for biochip functionalization.

**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 |

**Assay Setup in heliOS**
For studying enzymatic activity of a nucleic acid modifying enzyme (e.g., polymerase, reverse transcriptase, helicase, etc.). Go to heliOS > create a New Assay Workflow > add Custom Assay > load Enzyme Binding and Activity > modify the parameters based on your needs and run the assay. Suggested assay parameters (e.g., flow rates, functionalization time, LED power, etc.) are within the heliOS assay.

**TIP**
Is strongly recommended to perform binding kinetics of the enzyme beforehand. The obtained Kd during enzyme kinetics can be the initial test concentration for the association of the enzyme during enzyme kinetics. This concentration is a good compromise to not overcrowd the surface and avoid multiple enzymes binding to the same template.

**TIP**
For an initial scouting of the substrate, choose a broad concentration splitting spanning the low nanomolar to high micromolar, and a blank. A minimum of 6 concentrations of the substrate are recommended to obtain a reliable sigmoidal fit during the extraction of the KM. For inhibition assay, analysis, or any further questions, please contact the support team at **support@dynamicbiosensors.com**.

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## Documents / Resources

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|  | dynamic BIOSENSORS HK-EA-2 RNA Enzyme Activity Kit [pdf] User Manual<br>v1.1, HK-EA-2 RNA Enzyme Activity Kit, HK-EA-2, RNA Enzyme Activity Kit, Enzyme Activity Kit , Activity Kit, Kit |

## References

- HomePage | Biosensors International Ltd
- Home - Dynamic Biosensors
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