new_diagnostics

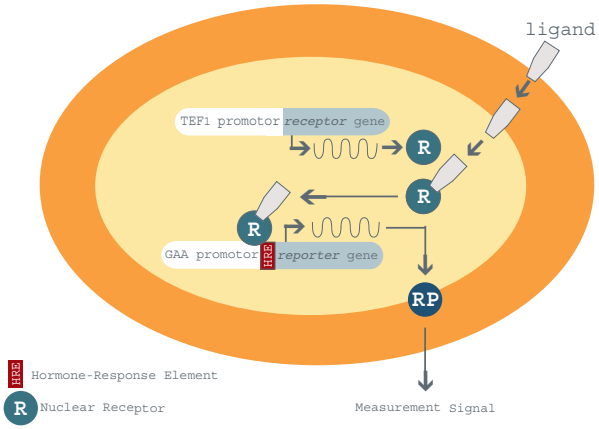
# µA-YES

Innovative biological measurement system for the detection of estrogenic activity in water

The biological test system **µA-YES** is an effect-directed, yeast cell-based assay for a highly sensitive detection of estrogenic activity in all types of aqueous samples including saline water, waste water and environmental water. The test is particular applicable for samples with limited sample volume such as extracts. The **µA-YES** measures the cumulative estrogenic activity of a sample in a fast, easy, economic and reliable manner. It is therefore ideal for food and environmental analysis. With the **µA-YES** you can determine the estrogenic effect of a sample (EEQ) as well as the the dilution level at which an estrogenic effect does no longer occur (LID - lowest ineffective dilution). The **µA-YES** is equivalent to the ISO method A-YES® (ISO 19040-2:2018).

## MEASUREMENT PRINCIPLE

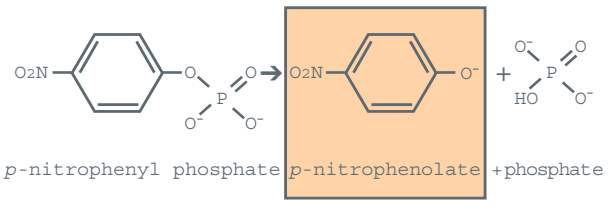
The **µA-YES** uses the salt- and temperature-tolerant yeast *Arxula adeninivorans* as test organism, in which the human gene for estrogen receptor alpha (hERα) and a reporter gene have been integrated. The binding of estrogenic substances to the receptor will subsequently activate the production of the reporter enzyme phytase. The amount of the reporter enzyme produced correlates with the total concentration of estrogenic active substances in the sample. After addition of a chromogenic substrate, the reporter enzyme concentration can be measured photometrically. 17β-Estradiol (E2) is used as reference standard for the calibration.



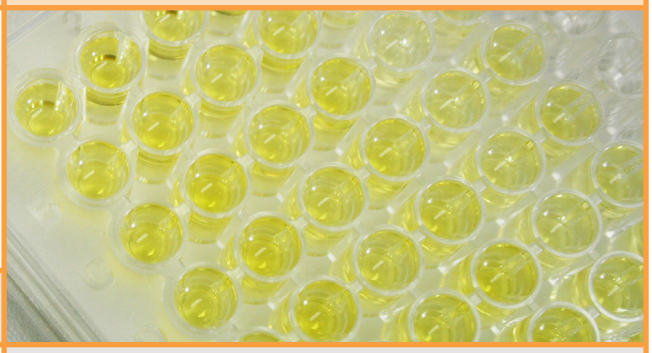

▲ **µA-YES** test kit

## APPLICATIONS

- Environmental monitoring of estrogenic activity in salt water (sea and brakish water)
- Environmental monitoring of estrogenic activity in wastewater, ground and surface water
- Pharmaceutical and cosmetic industry
- Quality control of ultrapure, drinking and mineral water




▲ Schematic reaction of phytase: Cleavage of *p*-nitrophenyl-phosphate into *p*-nitrophenolate (yellow)



## ADVANTAGES OF THE µA-YES

- Short processing time and easy handling
- low sample volume
- Minimal effort for sample preparation
- No cell disruption necessary
- No sterile workplace required

## LABORATORY REQUIREMENTS

- Genetic BSL1 laboratory
- Multichannel pipette (nominal vol. 100 µl)
- Incubator (T = 86 °F)
- Vortex shaker (orbit 4.5 mm)
- Microlitre/ Microplate centrifuge
- Photometer for microtiter plates (λ = 405 and 630 nm)

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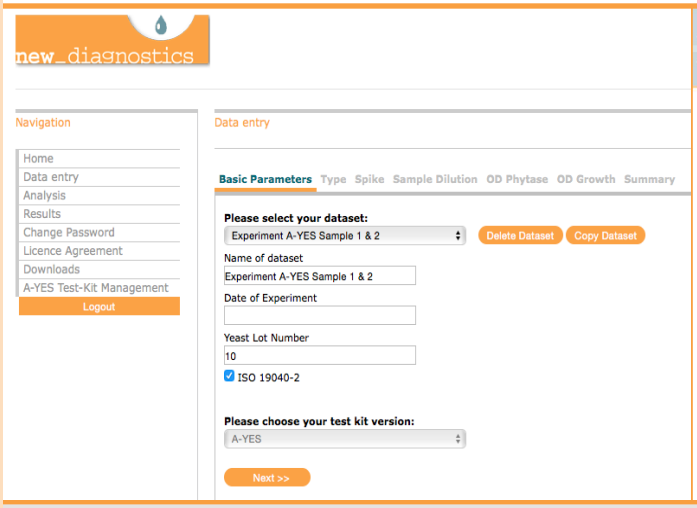
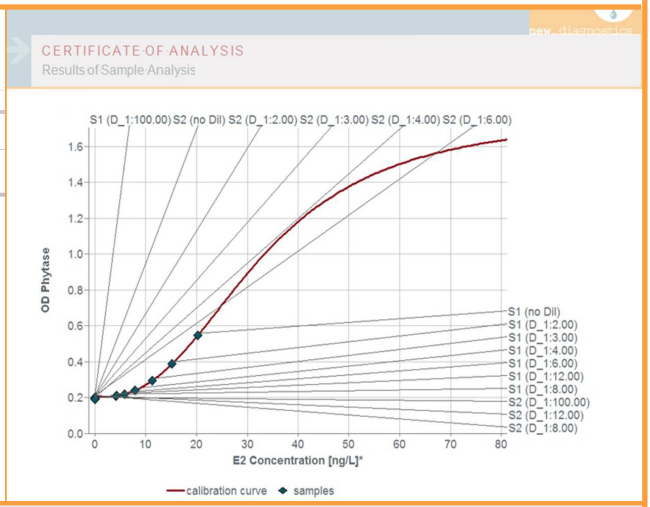
| | |
|---|---|
| **Duration of Assay** | approx. 26 h |
| **Number of Samples (EEQ)** | max. 80 |
| **Number of Samples (LID)** | max. 8 |
| **Validation** | equivalence test |
| **Calibration Range** | 0 – 80 ng/L 17β-Estradiol (E2) |
| **Limit of Detection** | 2.3 ng/L 17β-Estradiol (E2) |

## BioVAL® - SOFTWARE FOR EXPERIMENTAL DESIGN AND STATISTICAL ANALYSIS

We will give you access to BioVAL® for an easy, reliable and uniform statistical analysis. The software enables you to analyse your data in a standardized manner even without special statistical knowledge. The results are presented in a comprehensive report.



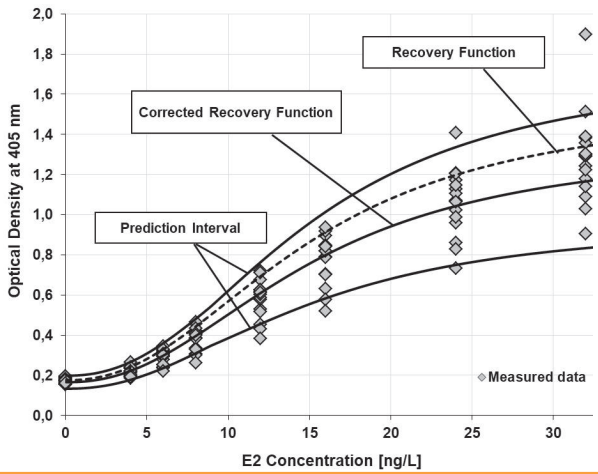

▲ Data analysis via BioVAL® webinterface




▲ Excerpt of the certificate of analysis

## QuoData CERTIFICATE

The **µA-YES** test has been awarded the QuoData certificate of matrix comprehensive validation.This guarantees continuously high quality and reliability of our test kits.




▲ Optical densities at 405 nm with 90 % prediction interval for the **µA-YES**

The validation of **µA-YES** was performed as an equivalence test against the reference method A-YES® (ISO 19040-2:2018) as a factorial study with various environmental samples.
Samples were analyzed in parallel with both methods under varying measurement conditions. It could be proven that **µA-YES** shows comparable results to those of the A-YES®. The mean deviation between **µA-YES** and A-YES® does not exceed 1 ng/L EEQ.

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