new_diagnostics

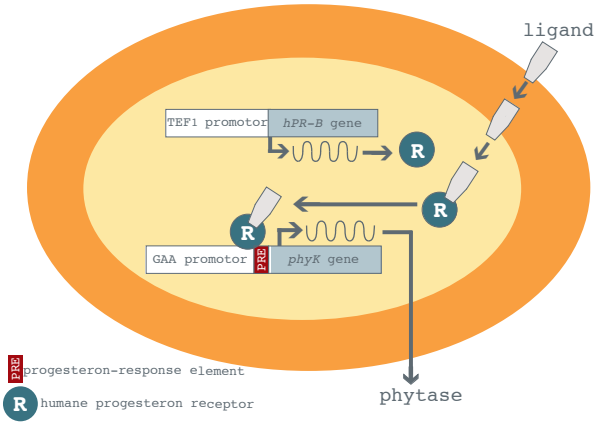
A-YPS

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

The biological test system **A-YPS** is an effect-directed, yeast cell-based assay for a highly sensitive detection of progestogenic activity in all types of aqueous samples including eluates and extracts. The **A-YPS** measures the cumulative progestagenic activity of a sample in a fast, easy, economic and reliable manner. It is therefore ideal for food and environmental analysis.

MEASUREMENT PRINCIPLE

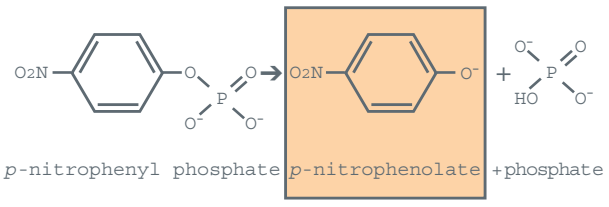
The **A-YPS** uses the salt- and temperature-tolerant yeast *Arxula adeninivorans* as test organism, in which the human gene for the progesterone receptor B (hPR-B) and a reporter gene have been integrated. The binding of progestagenic substances to the receptor will subsequently activate the production of the reporter enzyme phytase. The amount of the reporter enzyme produced correlates with the total concentration of progestagnic active substances in the sample After addition of a chromogenic substrate, the reporter enzyme concentrationcan can be measured photometrically. Progesterone (PR) is used as reference standard for the calibration.



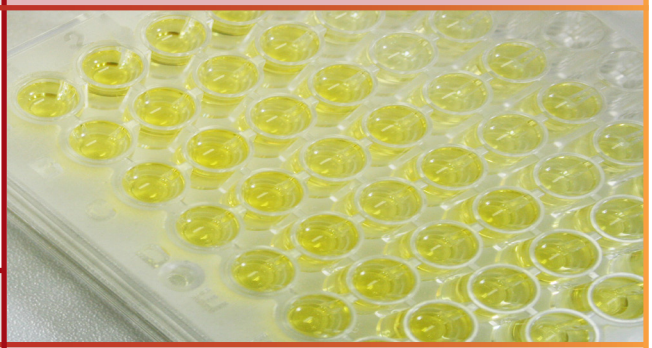
▲ **A-YPS** test kit

APPLICATIONS

- Environmental monitoring of progestagenic 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 A-YPS

- Short processing time
- Easy handling
- Minimal effort for sample preparation
- No cell disruption necessary
- No sterile workplace required

LABORATORY REQUIREMENTS

- BSL1 laboratory (GMOs)
- Multichannel pipette (nominal vol. 100 µl)
- Temperature-controlled shaker (T = 86 °F, Orbit at least 3 mm)
- Microlitre/ Microplate centrifuge
- Photometer for microtiter plates (λ = 405 and 630 nm)

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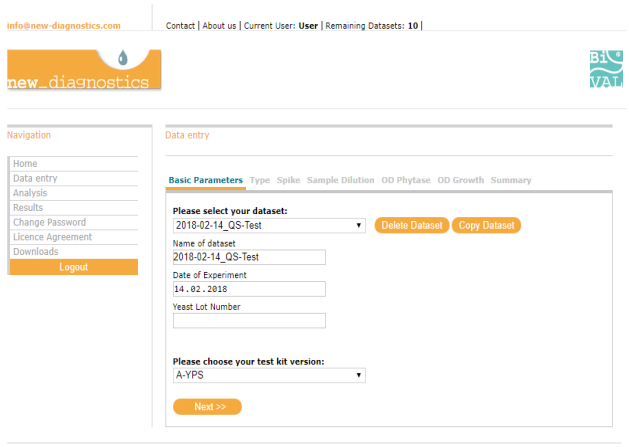
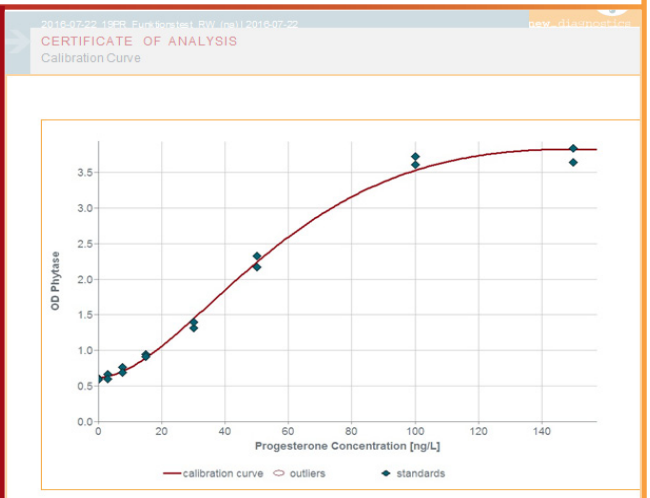
Duration of Assay	approx. 26 h
Number of Samples (PEQ)	max. 40
Validation	in-house
Calibration Range	0 – 150 ng/L Progesterone
Limit of Detection	6.6 ng/L Progesterone

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.



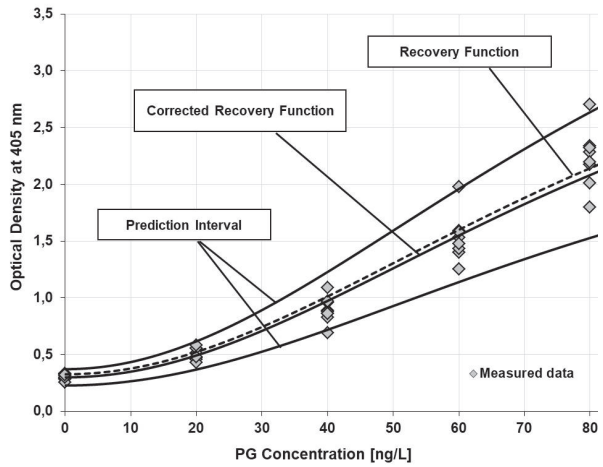
▲ Data analysis via BioVAL® webinterface



▲ Excerpt of the certificate of analysis

QuoData CERTIFICATE

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



▲ OD 405 measurement values with 90 % prediction interval for the **A-YPS**

The validation of the **A-YPS** was carried out as an in-house validation study with a set of eight environmental samples.
The used samples set included samples with different sample characteristics and matrix such as well and surface water as well as effluents of a sewage treatment plant. The planning and evaluation of the in-house validation study was realized by QuoData GmbH.

August 2018

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