

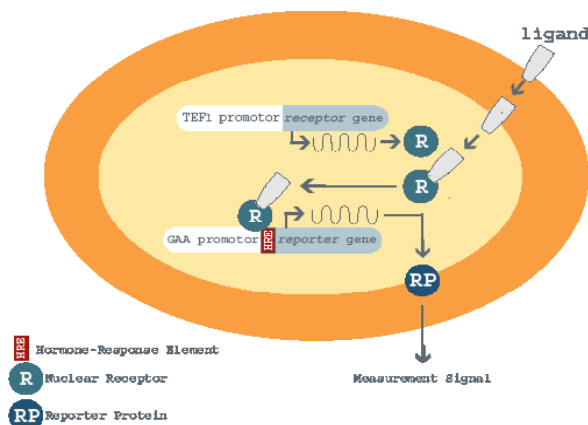
A - YPS

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

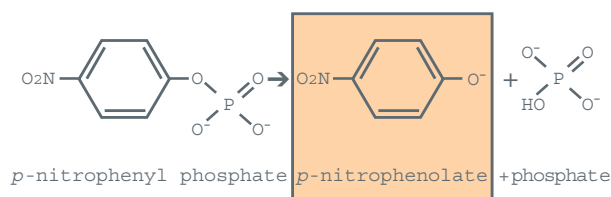
The biological test system **A-YPS** is an effect-directed, yeast cell-based assay for a highly sensitive detection of progestogenic activity in all types of aqueous samples including eluates and extracts. The **A-YPS** measures the cumulative progestagenic activity of a sample in a fast, easy, economic, 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 adenivorans* 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 progestagenic active substances in the sample. After addition of a chromogenic substrate, the reporter enzyme concentration can be measured photometrically. Progesterone (PR) is used as reference standard for the calibration.



▲ A-YPS test kit



▲ 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

APPLICATIONS

- Environmental monitoring of progestagenic activity in wastewater, ground and surface water
- Pharmaceutical and cosmetic industry
- Quality control of ultrapure, drinking and mineral water



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

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Data entry

Basic Parameters Type: Spike Sample Dilution OD Phytase OD Growth Summary

Please select your dataset:

2010-02-14_QS-Test

Delete Dataset Copy Dataset

Name of dataset

2010-02-14_QS-Test

Date of Experiment

14.02.2018

Yeast Lot Number

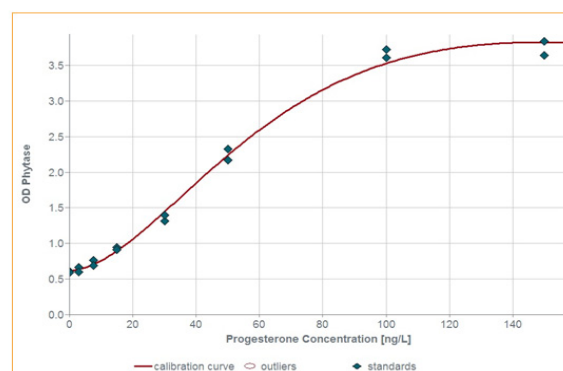
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A-YPS

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CERTIFICATE OF ANALYSIS

Calibration Curve

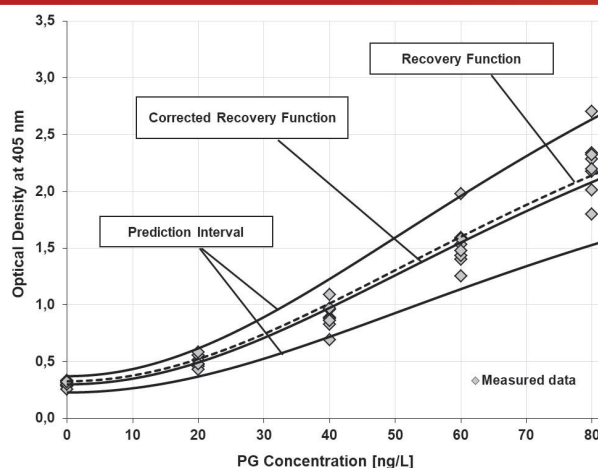


▲ Data analysis via BioVAL® webinterface

▲ 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.