new_diagnostics

S-YES basic

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

The **S-YES**basic (*Saccharomyces*-Yeast Estrogen Screen) is a simple and fast effect-based **cuvette test** for the detection of estrogenic activity in various types of water samples. The **S-YES**basic uses the conventional and recombinant yeast *Saccharomyces cerevisiae* as the estrogen responsive biosensor. After approx. **four hours** of the total assay time you get a result of the estrogenic effects expressed as EEQ (17β-Estradiol equivalent concentration) of your analyzed samples. The whole test can be performed under unsterile conditions and no special lab equipment is required. The **S-YES**basic is recommended for a reduced amount of samples. Dependending on the test design a qualitative or quantitative assessment of the estrogenic activity can be applied.

MEASUREMENT PRINCIPLE

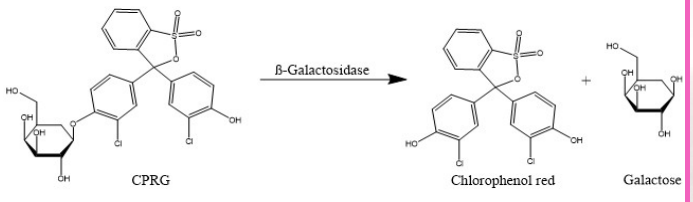
The test **S-YES**basic uses genetically modified *Saccharomyces cerevisiae* BJ3505 yeast cells [1, 2]. Every yeast cell contains two plasmids. The receptor plasmid contains specific regulation sequences and the gene for the human estrogen receptor α. The reporter plasmid contains specific regulation sequences as well as the gene for the reporter enzyme β-Galactosidase. The binding of estrogen active substances to the receptor will subsequently activate the production of the reporter enzyme β-Galactosidase. The amount of the reporter enzyme correlates with the total concentration of estrogenic active substances in the sample. After addition of chromogenic substrate, the reporter enzyme activity can be measured photometrically. 17β-Estradiol (E2) is used as reference standard for the calibration.

[1] McDonnell et. al, 1991. In situ distinction between steroid receptor binding and transactivation at a target gene.
[2] McDonnell et. al, 1991. High level expression of biologically active estrogen receptor in *Saccharomyces cerevisiae*.

▲ S-YES basic test kit

APPLICATIONS

- Aqueous extracts
- Drinking and mineral water
- Ground and surface water
- Process water
- Wastewater



▲ Schematic reaction of β-galactosidase: Cleavage of CPRG into chlorophenol red and galactose

ADVANTAGES OF THE S-YES basic

- Short processing time (approx. 4 hours)
- Ready-to-use-reagents
- Easy handling
- No precultures necessary
- No sterile working conditions required

LABORATORY REQUIREMENTS

- BSL1 laboratory
- Temperature controlled shaker (T = 34 & 37 °C)
- Microliter centrifuge
- Photometer (λ = 580 nm)

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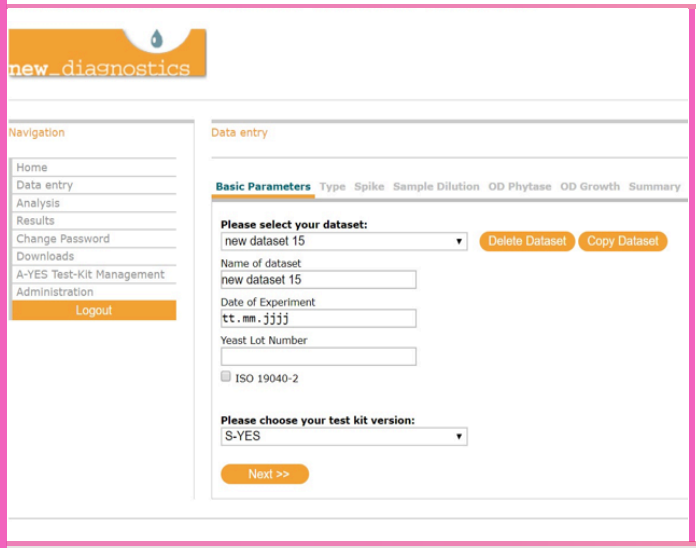
Biological measurement system for the detection of estrogenic activity in water

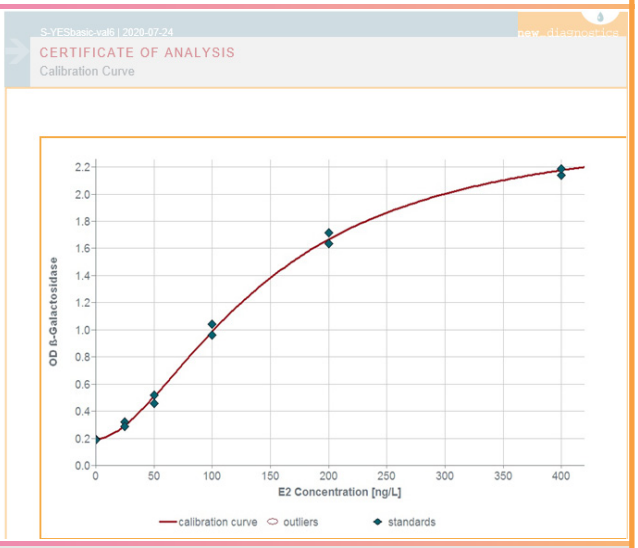
Duration of assay	ca. 4 h
Number of samples	max. 6
Validation	in-house study
Calibration range	0 – 400 ng/L 17β-Estradiol (E2)
Limit of detection	12.8 ng/L 17β-Estradiol (E2)

BioVAL® - SOFTWARE FOR EXPERIMENTAL DESIGN AND STATISTICAL ANALYSIS

We will give you access to BioVAL® for an easy, reliable, and uniform statistical analysis. The web-based software enables you to analyse your data in a standardized manner 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 **S-YES**basic test kit has been awarded the QuoData certificate of matrix comprehensive validation.This guarantees continuous high quality and reliability of our test kits.

The validation of the **S-YES**basic was performed according to a factorial in-house validation study with eight different water samples each spiked with different concentrations of E2.

The range of water types comprised a heterogeneous set of samples with different samples matrices, e. g., surface water and and samples from wastewater treatment plants. The planning and evaluation of the validation was realized by QuoData GmbH.

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