

A-YBS^{lumi}

The innovative yeast assay for the effect-based detection of cumulative activity of bisphenols



BRIEF DESCRIPTION

The **A-YBS^{lumi}** utilizes the non-conventional yeast biosensor *Arxula adenivorans*, which carries the modified gene for the human estrogen receptor α (hER α) and the gene for the firefly luciferase. Binding of ligands to the receptor will subsequently activate the production of the reporter enzyme luciferase. The measured relative light units (RLU) correlate with the total concentration of bisphenols in the sample. The determination of bisphenol A equivalents (BPAEQ) is achieved by using sigmoidal dose-response relationship.

KEY SPECIFICATIONS

- Calibration standard: bisphenol A (bpA)
- LOD*: 7.3 $\mu\text{g/L}$ bpA
- LOQ*: 8.8 $\mu\text{g/L}$ bpA
- Calibration Range: 0 – 200 $\mu\text{g/L}$ bpA
- Total assay time: 4.5 h

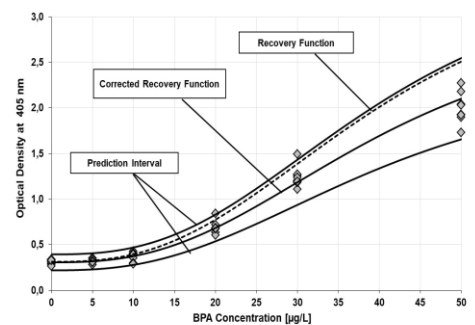
*refers to the in-house validation study

BENEFITS AT A GLANCE

- Quality approved ready-to-use test kit
- No sterile workplace required
- Biosensor contains no antibiotic resistance markers
- Less required sample volume
- Automated data evaluation with BioVAL

VALIDATION

The validation of the **A-YBS^{lumi}** was performed according to a factorial in-house validation study with eight different water samples including drinking and environmental water. The samples were spiked with different concentrations of bpA. Relevant parameters influencing the test performance were systematically varied in this study. The validation was planned and accomplished by QuoData GmbH.



BIOVAL

- Web-based software with individual user account
- Application of up-to-date statistical approaches
- Comprehensive editable report

SPECIAL LABORATORY REQUIREMENTS

- BSL1 laboratory
- Incubator + Shaker for microplates (shaker orbit 1.5 – 4.5 mm)
- Microplate reader for luminescence

