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## Analytical tools monitoring endocrine disrupting chemicals

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### HIGHLIGHTS

- EDCs affect environment and human health
- Biosensors have a high potential for fast *on-site* screening and risk-assessment
- Validated chromatography offers utmost selectivity for laboratory quantitative analyses
- Validated bioassays reveal biological endpoints and new potential EDCs in laboratory
- Nano-biotechnology enables enhanced sensitivity, selectivity and specificity
- EDCs monitoring requires a multi-tiered, integrated, analytical approach

### Abstract

Endocrine disrupting chemicals (EDCs) are harmful, xenobiotic compounds requiring a multi-tiered analytical approach for a reliable management. Although worth efforts worldwide, comprehensive EDCs monitoring and risk-assessment still require improvements. This article covers possible risks for public health due to EDCs exposure, and revises the maturity reached in different analytical detection fields, with a special focus on biosensor technology. Among validated laboratory-techniques, hyphenated mass-spectrometry-based chromatography provides high selectivity and multi-analyte detection, while *in vitro* bioassays enable reliable toxicological testing. However, none of these methods is suitable for fast *in field*, continuous or semi-continuous operations. Due to

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