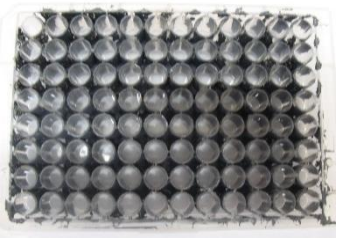
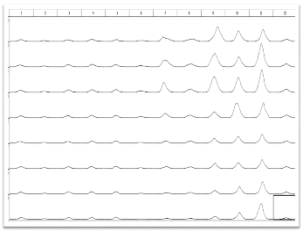
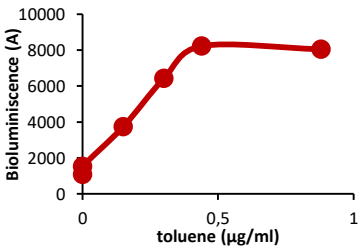
technology profile

ANALUM® –BIOLUMINESCENCE KIT FOR FAST POLLUTION DETECTION

Analum is an bioanalytical detection kit utilizing encapsulated bioreporters (bioluminescence emitting microorganisms) for fast detection of multiple pollution in water (currently optimized versions include BTEX and naphthalene, more are under development). Potential application involves monitoring of pollution spread, periodic monitoring of pollution in discharging waters, basic screening of pollution types in samples and also preliminary detection of toxicity of the sample.







Potential adopters of technology

The kit is aimed for analytical laboratories, waste-water treatment plants, industry discharging waste-waters, organizations carrying out monitoring of environment quality, risk assessment of pollution or decontamination measures.

Advantages of technology

In comparison with GL chromatographic analysis an application of ANULUM is cheaper and reflects biological availability of groups of contaminants. The kit has response ~3 hours to reach bioluminescence maxima. Manipulation with encapsulated bioreporters is easy and enable combination of various bioreporters responding selectively to different groups of contaminants. In one microplate is possible processing of 12 samples in one reading (two bioreporters and 3 replications of each sample). Encapsulated microorganisms are stored refrigerated for several weeks.

Market and context of technology

The product is applicable as a supplement for established companies producing or offering products for chemical analyses or producing or distributing such material. For beginning the small-scale production can be carried out on J.E. Purkyně University.

Preconditions in adopting enterprises

Use of the kit requires accreditation for content use of genetically modified microorganisms. Numbers of such laboratories is growing - commercial analytical laboratories, industries, research organizations etc.

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