MOSES PRODUCT BRIEF

MOSES: Microbial Optic Shellfish Evaluation Sensor
Version 1.0, May 2017
Developed and manufactured by Kaitek Labs.

PRODUCT OVERVIEW

Simple PSP toxicity detection. Current version provides a relative indicator of GTX-derived toxicity in shellfish samples. A color change from pink to orange indicates a toxic sample.
Test runtime is 4 hours, with overnight inoculation of the biosensor culture the day prior to the use of the kit.
Current version is intended for use within a laboratory setting but may be used on the field with minimal equipment after the culture has been grown overnight.
The kit allows the testing of up to 15 samples with their respective triplicates, cell death controls, culture media controls and blanks.

DISCLAIMER

This kit is intended for use as an experimental early screening method. It should not be used to determine toxicity for consumption purposes. Result robustness is not assured, as MOSES is currently at an experimental phase. Kaitek is not responsible for the use of the results obtained.
Current version has been proven with GTX-rich extracts (characterized with HPLC), with clean and toxic extracts generated side by side following identical protocols. Tested matrix so far is Gari Solida (pacific clam).

MATERIALS & METHODS

MATERIALS INCLUDED IN KIT

1 x Sterile 96 well plate
3 x Culture media (labelled Eppendorf tubes)
3 x Magic media (labelled Eppendorf tubes)
1 x Negative control
1 x Positive control
1 x Biosensor culture (labelled Eppendorf)

EQUIPMENT NOT INCLUDED IN KIT

Micropipette
Microcentrifuge
Incubator
Laminar flow cabinet

SAMPLE PREPARATION

Perform acid extraction of shellfish as normal.
Avoid use of DMSO as it might alter kit results.

TESTING PROCEDURE

1. Prepare overnight culture from biosensor culture stab agar. OD must reach 0.6
2. Add 1ml of regular culture media to 2 1,5 Eppendorf tubes. Centrifuge for 10 minutes at 2662g, dispose of the supernatant and resuspend pellet in remaining media. Combine the content of both tubes, homogenize and use as inoculum.
   The amount of inoculum to be added to the wells is calculated by:
   A) Inoculum (uL)=(0.2*10)/(OD)
3. Add magic media to the wells to be used according to the following formula:
   B) Magic media per well = (50 – uL obtained in A)
4. Add 50uL of your sample. It can be added without diluting, directly after the extraction process. Do consider that since the final volume per well will be 100uL, you will be assessing toxicity of an extract diluted by half, even when adding it directly with no further dilutions.
5. Add 50uL of positive and negative control to the labelled wells
6. Incubate at room temperature for 3 hours and compare obtained results with provided color scale.

SAMPLE RESULTS

Biosensor culture starts out blue. It goes pink if inoculated with clean extract, and orange if inoculated with toxic extract. Color intensity varies, and will later on be correlated to quantity of toxin present in the sample.
Color gradient can be distinguished up to 1 times the safety threshold. Difference at the regulatory level of 0.8 is minor but can be distinguished by the naked eye. Toxic concentrations of 4, 3.5, 3, 2 and 1 times the norm have been tested.

TO ORDER OR REQUEST MORE INFO,

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