Helping Create Nutritious, Safe And Sustainable Seafood
For Consumers Of Tomorrow

Polycyclic Aromatic Hydrocarbon Test Solution

Novel Qualitative Enzyme Inhibition Screening Assay

Key Benefits

Easy to use- no professional training required

No laboratory required- the kits can be easily implemented in an industrial setting or in the field

Cost effective- no need for expensive reagents or equipment

Complies with regulatory limits

Validated for seabass & salmon

Assay Information

Assay time-60 mins/96 well-plate

Sample preparation time-20 samples/6hours

Precision & Accuracy- less than 5% false negatives

No interference above maximum residue limits for: PFOS, PFOA, BFRS, Dioxins, PCBS, Pesticides

Cross Reactivity

Benzo(a)pyrene 100% (reference standard)

Benzo(k)fluoranthene -125%

OH-pyrene - 25%

Phenanthrene - 7%

Fluorene - 5%

Acenaphthylene - 0.5%

Limits of Detection (LODs)

Benzo(a)pyrene: 2µg/kg

PAH4 (sum of benzo(a)anthracene, chrysene,

benzo(b)fluroanthere and benzo(a)pyrene: 10µg/kg

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Step Process of Sample Preparation

Weigh 7.5/12.5 g of homogenized fish sample

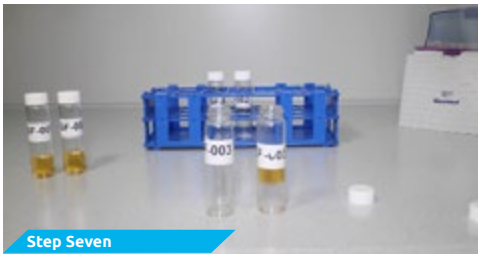
Add 12 mL of acetonitrile and 3 mL of ddH_2O

Add QuEChER to sample tube & vortex for 2 minutes

Centrifuge at 3500 rpm for 10 minutes at room temperature

Tranfer the supernatant to a glass tube containing NaCl and add 5 mL of water to the supernatant & vortex

Incubate diluted supernatants in freezer for 30 minutes



Transfer all supernatant (organic phase) into clean glass tube and dilute 2 fold using ddH_2O

Precondition a C18 500mg cartridge and pass all diluted supernatant through the cartridge

Elute using Acetonitrile and filter through a PSA/ Neutral aluminium oxide column

Evaporate Acetonitrile under gentle stream of Nitrogen at room temperature

Reconstitute sample in acetone and phosphate buffer and vortex, centrifuge and dilute 25 fold. Sample is ready for application to test device

Step Process of Assay Detection

1. Prepare Reaction Mixture 1 using Reagent A & B
2. Add a 80 µL of sample extract to each well
3. Add 10 µL of Reaction Mixture 1 per well and incubate for 5 minutes at 37°c and shake for 8 minutes
4. Prepare Reaction Mixture 2 using phosphate buffer, Reagent C & Reagent D
5. Remove microtitre plate from incubator and add 10µl of Reaction Mixture 2 to every well. Incubate for 60 minutes at 37°C
6. Measure the fluorescence of each well

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