



HOMOGENIZATION OF GILLS OF *MYTILUS GALLOPROVINCIALIS* WITH PRECELlys EVOLUTION

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CONTEXT

Concentration of pollutants and their derived effects are one of the most important elements in the evaluation of aquatic environment through biomonitoring programs. Samples of mussel gill homogenates are important to evaluate biomarkers of water pollution, such as total oxidant status (TOS) and total antioxidant capacity (TAC).

MATERIALS

- **Precellys® Evolution Homogenizer**
- **Precellys lysing kit:** CK14 2mL (KT03961-1-003.2)
- **Samples:** gills of the mussels collected and stored at -80°C
- **Buffer:** K-phosphate buffer 0.1M, pH 7.2.
- Ultracentrifuge

PROTOCOL

- Apox. 100 mg of sample was prepared with buffer (w/v; 1/4).
- **Precellys® Evolution**
- **6000rpm, 2x10 sec, 10 sec break**
- After the last cycle, samples were centrifuged at 4°C :
- 3500rpm 10 min
- 600g for 15 min
- 13,000g for 20 min
- 40,000g for 90 min
- Supernatant was collected the remaining samples were frozen at -80°C.

RESULTS

Evaluated assays showed adequate precision when gills homogenates were used. with intra- and interassay CVs lower than 15%, and recovery percent between 80% and 120%, which are the agreed limits for good method functionality (Table 1).

Table 1. The homogenites showed to be adequate for TAC and TOS measurement in mussel gills.

| | TOS | TAC |
|--------------------|---------------|-------------|
| Intra assay (CV) | <10 % | <15% |
| Inter assay (CV) | <15% | <8% |
| Recovery | 100 - 104.37% | 100 - 109% |
| Limit of detection | 7.89 µmol/L | 0.07 mmol/L |

CUSTOMER

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CONCLUSION

The Precellys homogenizes adequately the samples of mussels gills for extraction of markers of water pollution, TAC & TOS. The Precellys® Evolution combined to the Precellys Lysing Kit CK14 is an efficient homogenizer that can process up to 24 samples in 2mL tubes simultaneously.

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【Precellys Evolution を用いた、ムラサキガイのエラの水質汚染指標分析】 Precellys-APS-1512-81