



Total cathepsin activity measurements in Atlantic salmon muscle

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CONTEXT

Our research aims at studying quality of fish as food. Enzyme activity measurement allows to evaluate potential fish muscle degradation, both *pre-* and *post-mortem*.

Total cathepsin B activity was measured in salmon muscle homogenates to evaluate the influence of different length of pre-slaughter crowding stress (Non-Stress (NS), Short-term Stress (SS) and Long-term Stress (LS)), on fish fillet quality¹.

MATERIAL

- Precellys®24 homogenizer.
- Precellys® lysing kit: 0810-09 (Mixed ceramics beads).
- Sample : 300 mg of frozen salmon muscle.
- Extraction buffer: 1 mL 100 mM Na-acetate in 0.2% Triton X-100, pH 5.5.
- Centrifugal instrument.

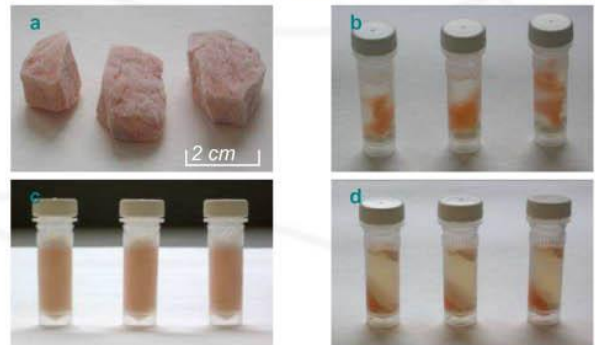
PROTOCOL

- Precellys®24: 5000rpm, 2x20sec, 10s break.
- Centrifugation: 16 000 g, 30 min.
- Analysis: Cathepsin activity was measured fluorimetrically on the prepared muscle homogenate supernatants (Kirschke, Wood, Roisen and Bird, 1983).

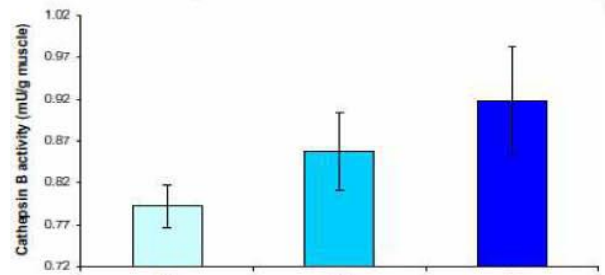
1) Bahaud D. et al., Food Chemistry (2009), doi:10.1016/j.foodchem.2009.05.028



RESULTS



a) Frozen muscle b) Muscle immersed in buffer in Precellys® tubes c) Muscle after homogenization with Precellys®24 d) Muscle homogenates after centrifugation



Total cathepsin activity in muscle homogenates

A classical homogenization technique of fish muscle samples implied the use of a manual overhead electric motor and pestles. The samples were homogenized one by one: time consuming technique and perfect homogenization not guaranteed.

CONCLUSION

Comparing to the former classical method of homogenization of muscle samples, the use of **Precellys®24** allows a perfect homogenization of the samples. Precellys®24 is **easy to use**, **simple**, **efficient** and **much faster** than the former method.

Precellys®24 brings us **efficiency**, **modernity**, **homogeneity** in the results and **time-saving**.

For more details, please contact precellys@bertin.fr



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