

Case study - Fish

PCR-based methodology for the authentication of the Atlantic mackerel *Scomber scombrus* in commercial canned products.

Carlos Infante, Aniela Crespo, Eugenia Zuasti, Marian Ponce, Laura Pérez, Victoria Funes, Gaetano Catanese, Manuel Manchado.
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Overview

- **Keywords:** *S. scombrus*, ND5, multiplex-PCR, canned products, authentication
- **Aim of the study:** Authentication of Atlantic mackerel in canned products
- **Application:** Multiplex-PCR
- **Sample name:** Atlantic mackerel *Scomber scombrus*
- **Sample type:** Fish
- **Material:** FastPrep-24™ instrument, FastDNA™ Kit containing 2 ml Lysing Matrix A tubes
- **Buffer:** Cell Lysis Solution-TC provided with the FastDNA™ Kit

Protocol and Parameters

1. Add 150 mg of raw or canned muscle sections in 2 ml lysing matrix A tubes
2. Add 1 ml of CLS-TC buffer
3. Load tubes in FastPrep-24™ instrument and process 40 sec at speed setting of 5.0
4. Centrifuge to pellet debris
5. Performe DNA isolation following FastDNA™ Kit's protocol

Conclusion

- A multiplex-PCR assay for the authentication of the Atlantic mackerel *Scomber scombrus* in commercial canned products has been developed using FastPrep-24™ instrument for homogenization and FastDNA™ Kit for purification.
- The system was assayed using six different canned products labeled as *S.scombrus*. **Positive identification in all samples** was observed, revealing this methodology as a potential molecular tool for direct application in the authentication of *S. scombrus* canned products.

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