



FREEZE POWDERING USING CRYOLYS® EVOLUTION

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/ CONTEXT

Grinding deeply-frozen biosamples or 'freeze-powdering' is a good alternative to preserve even more DNA/RNA or protein. In this report, we tested if the freeze-powdering can be performed with Precellys® Evolution equipped with Cryolys® Evolution on soft, hard and elastic samples.

/ MATERIALS

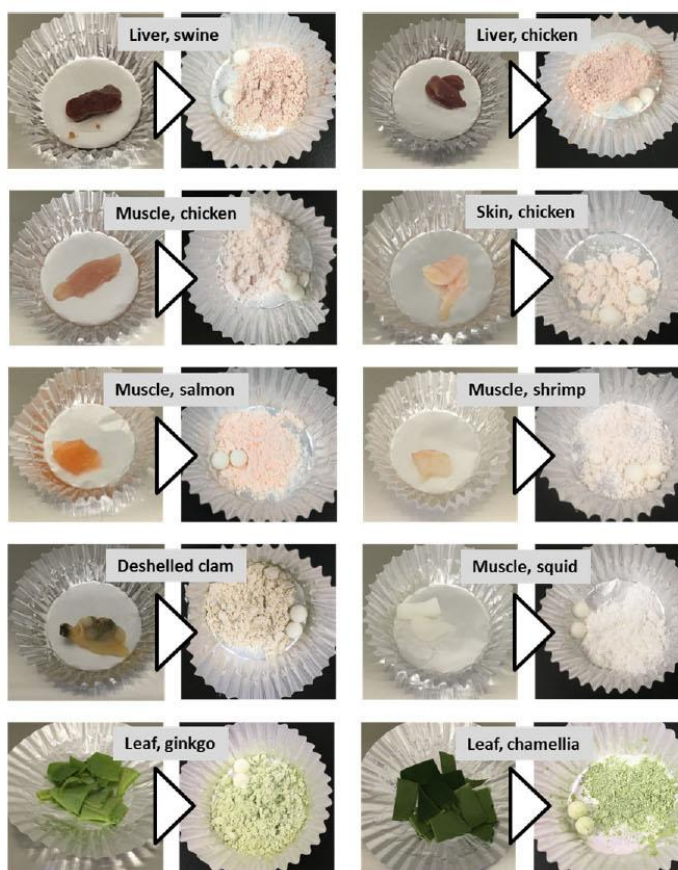
- Instrument: Precellys® Evolution & Cryolys® Evolution (P00062-PEVO0-A.0 & P000671-CLYS2-A.0)
- Kit: Stainless Metal tube (P000952-LYSK0-A.0)
- Beads: 2 x 6.8 mm ceramic beads (P000931-LYSK0-A.0)
- Liquid nitrogen for sample freezing
- Crushed dry ice for Cryolys® Evolution
- Liver (swine, chicken), muscle (chicken, salmon, squid, shrimp), skin (chicken), whole deshelled clam, leaf (ginkgo, camellia), each.1g ca.

/ PROTOCOL

- 8800rpm, 1x10 sec.
- Cooling temperature 0°C

The tubes, beads, and fresh samples were snap-frozen in the liquid nitrogen until just before grinding. Metal lids and screw part of tubes were kept untouched to the liquid nitrogen for preventing frost-locking.

/ RESULTS



/ CUSTOMER



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/ CONCLUSION

The combination of Precellys® Evolution and Cryolys® Evolution was found useful for grinding frozen biosamples. After the experiment all samples were crushed. Their texture, chicken skin excepted, was similar to fine flour. This proves that they never thawed before or after the grinding, thus the DNA/RNA or protein was not damaged. Due to its large amount of fat, the chicken skin's texture differed by being sticky. Results show that not only animal organs or plants, but skin and squid muscles also were completely ground, meaning the Precellys® Evolution is also useful for grinding frozen elastic samples.

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