

Seeds grinding in 15mL Precellys® lysing tubes using the Precellys® Evolution for GMOs testing

CONTEXT

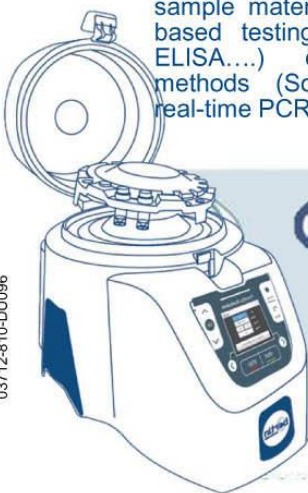
Genetically modified organisms (GMOs) are increasing worldwide and the task of the laboratories in charge of the compliance tests of food, feed or seed samples with their relevant regulations are increasing as well. Protein and DNA-based methods are widely applied in the GMO analysis. The first step is the homogenization/grinding of raw material and food ingredients before extraction of protein or DNA from those given samples.

MATERIAL

- Precellys® Evolution homogenizer.
- Precellys® lysing kit: CK68_15mL (KT03961-1-514.15).
- Sample: 3g or 4g of seeds (Soybean; Grain of Wheat); 4g or 5g of seeds (Oat seeds; Coral lentils)
- No buffer (Dry grinding).

PROTOCOL

- Precellys® Evolution:
 - Oat seeds: 4g=7200rpm, 1x20sec; 5g=7200rpm, 2x20sec (2min break);
 - Coral lentils: 4g=7200rpm, 2x20sec (2min break); 5g=7200rpm, 3x20sec (2min break);
 - Soybeans: 3g or 4g =7200rpm, 3x20sec (2min break);
 - Wheat: 3g=7200rpm, 3x20sec (2min break); 4g=7200rpm, 4x20sec (2min break);
 - Analysis: 100mg or 200mg of grinding sample material was extracted. Protein based testing methods (western blot, ELISA....) or DNA-based testing methods (Southern blot, quantitative real-time PCR....) can be carried out.



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RESULTS

With the Precellys® Evolution, 3, 4 or 5g of seeds are efficiently ground under dry conditions in 15mL Precellys® lysing kit before DNA or protein extraction (Figure 1).



Figure 1: a) Oat seeds b) Coral lentils c) Soybean, d) Grain of wheat (3, 4 or 5g) before/after (" ; ") grinding using Precellys® Evolution.

CONCLUSION

Precellys® Evolution homogenizer is the ideal tool to quickly grind **seeds samples under dry condition and avoiding cross-contamination** before DNA or Protein extraction. 6 prep of 3g up to 5g of seeds can be homogenized at the same time.

Precellys® Evolution is a versatile and efficient **high-throughput** homogenizer for labs performing **GMOs testing**.

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TECHNOLOGIES



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