

RNA extraction from human skin biopsies

Precellys®24

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LYSIS & HOMOGENIZATION AUTOMATED EQUIPMENT



Context

The understanding of molecular mechanisms and gene regulation involved in pigmentation and inflammatory processes, is needed to identify new therapeutic targets. For gene expression quantification, RNA is extracted from skin biopsies exposed and unexposed to UV radiation.

Material

- Precellys®24
- Precellys® kit CK14 (small ceramic beads)
- Sample : Human skin biopsies (40-70mg)
- Buffer : RA1 lysis buffer (Macherey-Nagel) + 1% β-Mercapto ethanol (350µl)

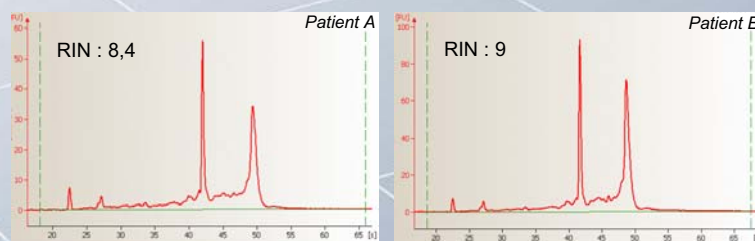
Protocol / Parameters

- Precellys®24 parameters : 6300 rpm, 6 x 23 sec (break 2 min)
(Samples are chilled on ice between each cycles)
- *Cryolys Option* should be used to keep the samples at low temperature

Results

Compared to classical lysis (Chaotropics ions + β-Mercapto ethanol + Vortex), RNA yield increased from 2 to 4 fold (Nanodrop quantification). RNA quality was assessed using a 2100 Bioanalyser. RNA Integrity Number (RIN) is over 8, meaning a good quality.

	Classical lysis	Precellys Lysis
Sample 1	124,6 ng/µl	454,0 ng/µl
Sample 2	160,0 ng/µl	638,0 ng/µl
Sample 3	198,7 ng/µl	801,1 ng/µl



Chromatograms from 2 patients A and B

Conclusion:

RNA extracted in highest quantity using Precellys®24 allowed us to study transcription modifications of several genes implicated in pigmentation or inflammation after UV-solar-spectrum-radiation corresponding to 1 or 2 MED (Minimal Erythema Dose).