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Comparative studies of two methods for miRNA isolation from milk whey

Key words: Method, Milk whey miRNA, Spike-in miRNA

JZUS-B

Research Route:



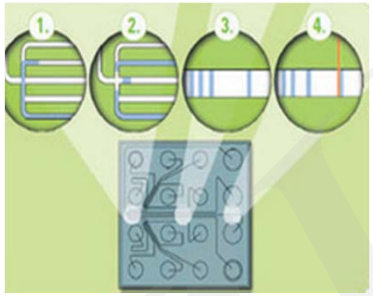
4 cows, 3 milk sample /cow , 1ml raw milk /sample)

Phenol based techniques (Trizol LS)

Column based approaches (Trizol LS-miReasy)

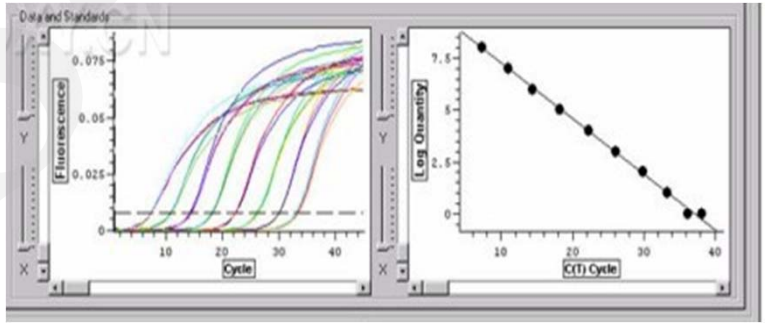
Total RNA Yield & Quality





✓NanoDrop ND-1000 spectrophotometer
✓Bioananlyzer 2100 instrument (RNA6000 PicoKit)

Small RNA Recovery



✓Examine a spiked-in synthetic RNA
✓Compare the apparent recovery of specific endogenous miRNAs

Validate the repeatability of the better method

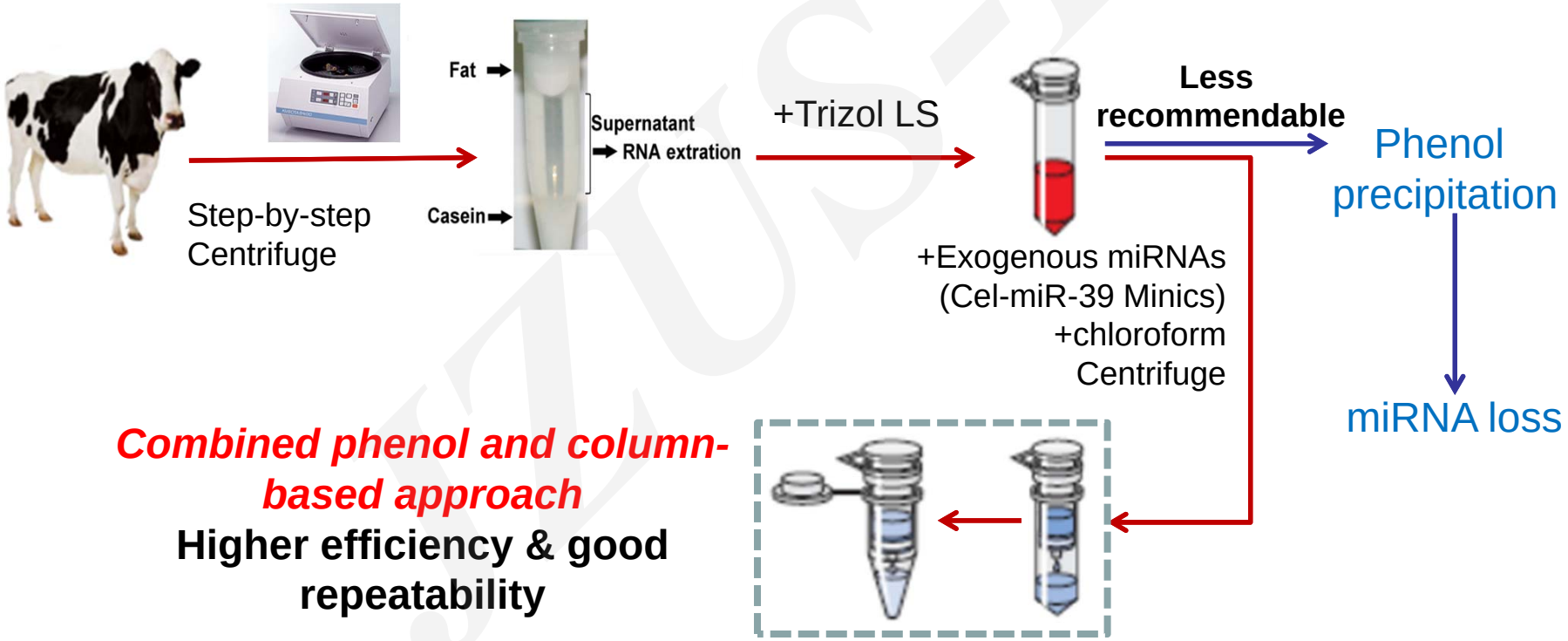
20 cows, 2 milk sample /cow , 1ml raw milk /sample)

The Consistency of recovery of spiked-in synthetic RNA

The repeatability of recovery of specific endogenous miRNAs

Innovation findings:

- ***Combined phenol and column-based approach(Trizol LS® followed by cleanup using the miRNeasy) is optimal choice for miRNA isolation from milk whey, compared with modified phenol-based technique (Trizol LS® followed by phenol precipitation***



Combined phenol and column-based approach

Higher efficiency & good repeatability