NucleoSpin® Food on QIAcube®

NucleoSpin Food using the DNeasy PowerBiofilm IRT Protocol on the QIAcube.

Results

The method was validated in comparison to the manual standard procedure of the NucleoSpin® Food kit processed in a manual microtube centrifuge. Standardized sample material such as shredded corn and wheat were used for the isolation of genomic DNA. Isolated nucleic acids were analyzed in respect to yield and purity using standard methodology.

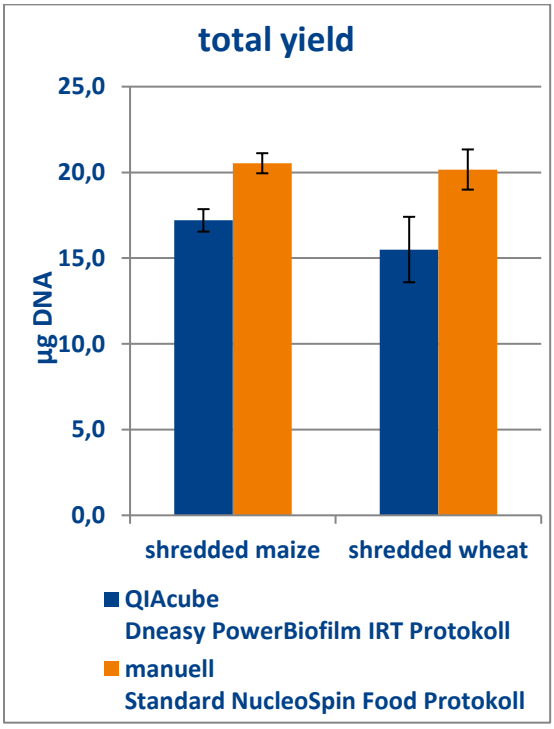

Figure 1: Genomic DNA was isolated from 200 mg ground semen of different species such as maize and wheat using the NucleoSpin® Food kit on a QIAcube® (dark blue bars) in comparison to the manual standard protocol (orange bars). The total yield was determined by UV spectrometry.

Because the QIAcube is a closed platform we utilize an existing QIAcube protocol (DNA_DNeasyPowerBiofilm_IRT_V1.qpf) and replace the buffers as well as the labware with the NucleoSpin® Food buffers and columns. The customer can expect near standard performance from using the kit on the QIAcube.

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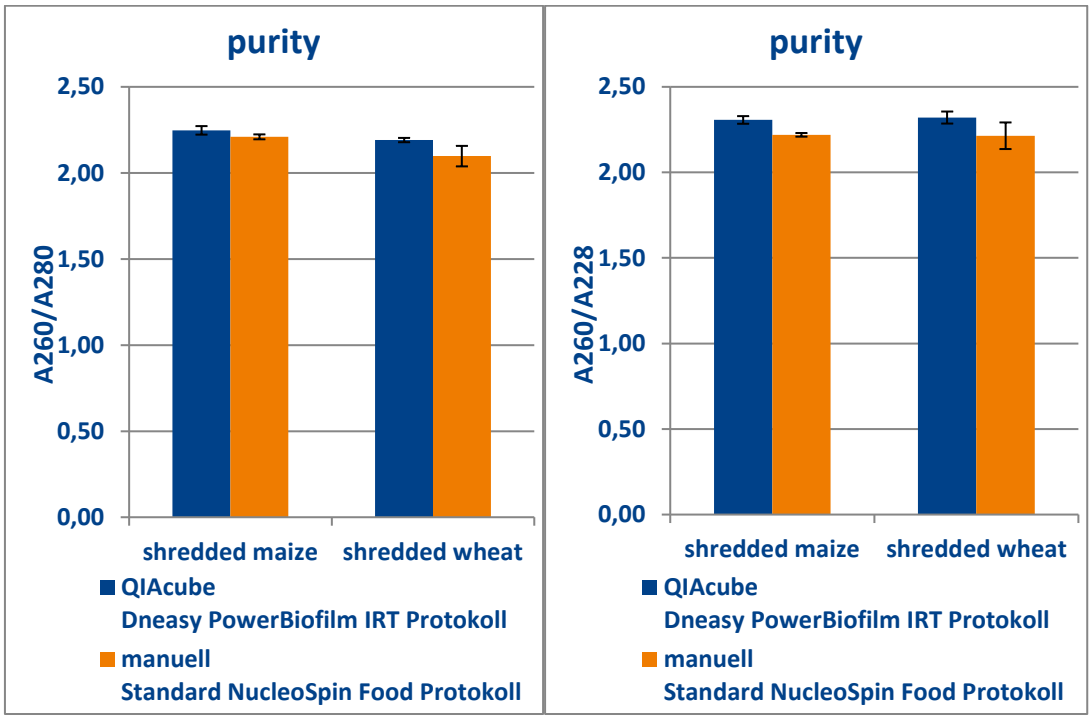

Figure 2: Genomic DNA was isolated from 200 mg ground semen of different species such as maize and wheat using the NucleoSpin® Food kit on a QIAcube® (dark blue bars) in comparison to the manual standard protocol (orange bars). The purity was determined both by UV-spectrometry.

Table 1 & 2: Yield and purity were determined by UV-spectrometry resulting into a comparable performance between QIAcube® and manual standard centrifuge processing.

Sample: maize Parameter	QIAcube®	Centrifuge processing
Total yield [µg]	17.2 ± 0.66 µg	20.5 ± 0.59 µg
A_{260}/A_{280}	2.25 ± 0.03	2.21 ± 0.01
A_{260}/A_{230}	2.31 ± 0.02	2.22 ± 0.01

Sample: wheat Parameter	QIAcube®	Centrifuge processing
Total yield [µg]	15.5 ± 1.91 µg	20.2 ± 1.17 µg
A_{260}/A_{280}	2.19 ± 0.01	2.10 ± 0.06
A_{260}/A_{230}	2.32 ± 0.04	2.21 ± 0.08

The results of the validation show a reliable purification of genomic DNA using the NucleoSpin® Food kit on the QIAcube®.

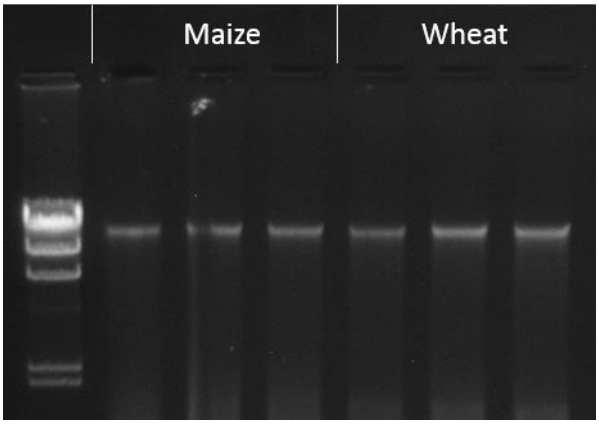

Figure 2: Integrity of genomic DNA was visualized via gel electrophoresis (10 µL per lane; 1 % TAE gel).

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