Purification of High Molecular Weight DNA from Bovine Blood

Purify high molecular weight DNA from bovine blood samples with Wizard® HMW DNA Extraction Kit.

Kit: Wizard® HMW DNA Extraction Kit (Cat.# A2920)

Analyses: Absorbance, Fluorescent DNA binding dye, Pulsed-Field Gel Electrophoresis

Sample Type: Bovine blood

Input: 300µl

Materials Required:
- Wizard® HMW DNA Extraction Kit (Cat.# A2920)
- 1.5ml microcentrifuge tubes
- Wide-bore pipette tips (1,000µl and 200µl)
- Phosphate-buffered saline (PBS)
- Heat blocks or water baths, set to 37°C and 56°C
- Isopropanol (room temperature)
- 70% ethanol (room temperature)

Protocol:
Results:

(A) Analyses of high molecular weight DNA from bovine blood. 300µl of blood was used for purifications with the Wizard® HMW DNA Extraction Kit. Yield and purity ratios of DNA purified from bovine blood. Concentration was measured with 1µl of DNA sample using QuantiFluor® ONE dsDNA System (Cat.# E4870) on a Quantus™ Fluorometer (Cat.# E6150). K562 Genomic DNA (Cat.# E4931) was used as a standard. Concentration was multiplied by 100µl to calculate yield in µg. Absorbance at 230, 260, and 280nm was measured on a NanoDrop™ 8000 Spectrophotometer (Thermo Fisher Scientific) and purity ratios were calculated by the NanoDrop™ software. Mean ± standard deviation is shown for all measurements, n=3 purifications for Cows 1-4 and n=2 purifications for Cow 5.

(B) Pulsed-field gel electrophoresis analysis of high molecular weight DNA from bovine blood. 500ng of DNA from two purification replicates for each blood sample was run on a 0.75% agarose/0.5X KBB Buffer gel for 16 hours using a Sage Sciences Pippin Pulse™ power source with the 5-430Kb setting. Two molecular weight size markers were run: Lambda PFG ladder (New England BioLabs, orange) and CHEF DNA Size Standard 8.3-48.5Kb, Lambda Ladder (Bio-Rad, blue).