

product codes:

RPN 8501, RPN 8502, RPN 8512

Nucleon BACC

Genomic DNA from blood and cell cultures

Nucleon™ BACC system rapidly extracts high molecular weight DNA from whole blood and cultured cells. The Nucleon proprietary resin is added following cell lysis, deproteinization with sodium perchlorate and a single chloroform extraction (Fig 1). This resin binds proteins (Fig 2) and forms a semi-solid stratum during partitioning (Fig 3), which facilitates removal of the aqueous phase and ensures excellent recovery of high quality DNA (Table 1).

Nucleon BACC system is not based on a column format and therefore scaling up to large sample volumes is both simple and cost effective. DNA recovered by Nucleon BACC system is suitable for PCR*, restriction digests, blotting and hybridization (Figs 4 & 5).

- Rapid, high M_r DNA extraction (30 min)
- High yields of pure DNA ($A_{260/280}$ circa 1.8) — no bind/elute protocol
- No phenol or proteinase K digestions
- Economical large volume sample extraction
- Tolerant to SDS
- Low shearing forces

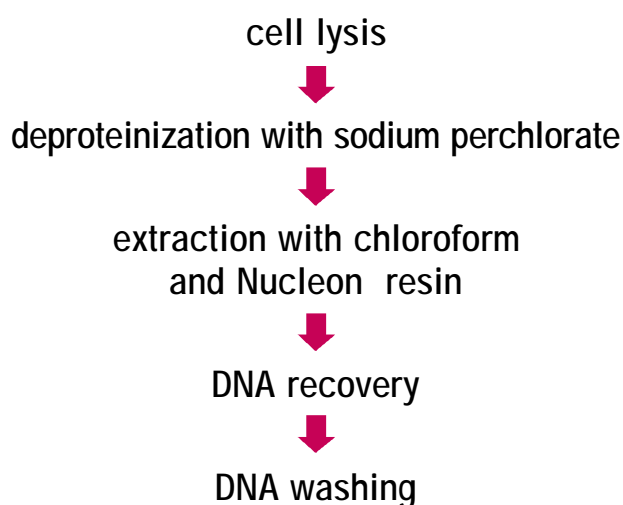


Fig 1. Principle steps in the Nucleon BACC protocol

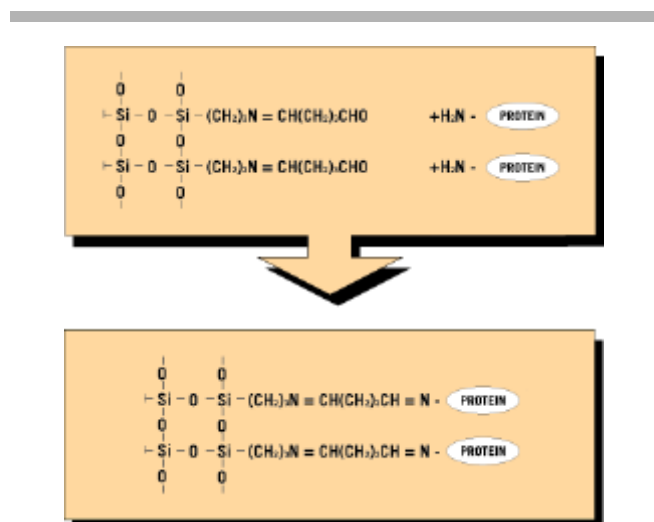


Fig 2. Mechanism of Nucleon resin protein binding

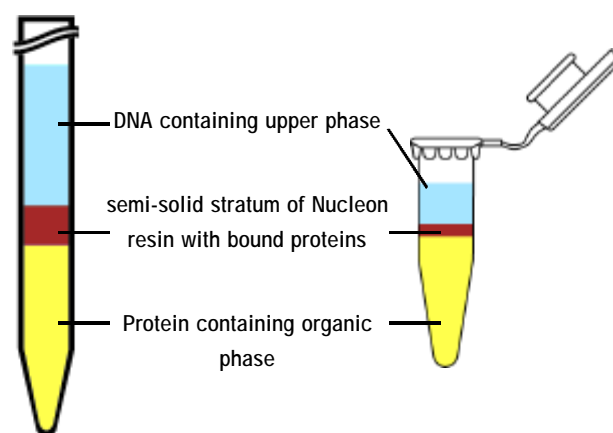


Fig 3. Formation of semi-solid stratum after addition of Nucleon resin and chloroform

Sample	Yield of DNA (μg)	A260/280	Size range (kb)
10 ml whole blood	370 – 440	1.77 – 2.10	23 – 200
10 ⁶ HeLa cells	12 μg (average)	1.82 (average)	46 – 224

Table 1. Yields and purity of recovered DNA

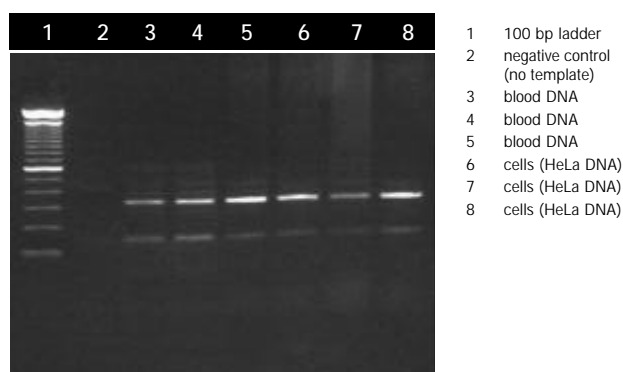


Fig 4. Blood and cell culture DNA (PCR amplification)

DNA isolated from human blood (lanes 3–5) or HeLa cells (lanes 6–8), following the Nucleon protocol, was used as a template for PCR amplification using primers corresponding to the mouse DNA methyltransferase gene. The products were separated on a 1.5% agarose gel.

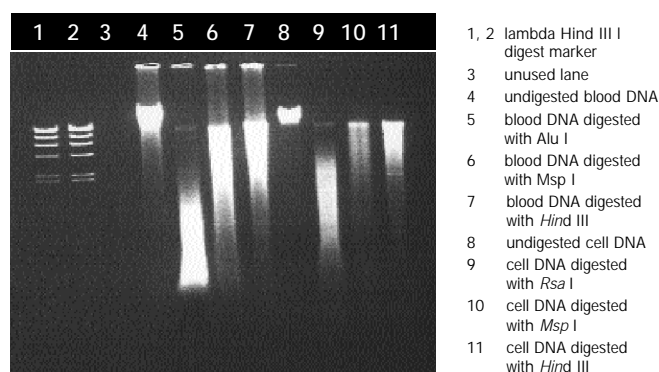


Fig 5. Blood and cell culture DNA (Restriction enzyme digestion)

DNA isolated from human blood (lanes 4–7) or HeLa cells (lanes 8–11) using the Nucleon protocol was digested with the restriction enzymes listed and separated on 0.8% agarose gel.

Ordering Information

Nucleon BACC1 for genomic DNA extractions
50 preps of 1 ml whole blood or cultured cells
(1×10^6 to 3×10^6) RPN 8501

Nucleon BACC2 for genomic DNA extractions
50 preps of 10 ml whole blood or cultured cells
(3×10^6 to 1×10^7)
or 100 preps of 1 ml whole blood and cultured cells
(1×10^6 to 3×10^6) RPN 8502

Nucleon BACC3 for genomic DNA extractions
50 preps of 10 ml whole blood or cultured cells RPN 8512
(This kit contains all reagents necessary for 50 x 10 ml blood extractions)

Kits also available

Nucleon MiY
for yeast mini-preps DNA extraction, 75 preparations RPN 8518

Nucleon HT
for hard tissue & paraffin sections,
50 preps of up to 25 mg per prep RPN 8509

Nucleon PhytoPure™
for plant DNA extraction, 50 preparations of 0.1 g RPN 8510

Nucleon PhytoPure
for plant DNA extraction, 50 preparations of 1.0 g RPN 8511

Product information

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