



GENOMIC DNA FROM MOUSE TAILS

Principle steps in the Nucleon® genomic DNA mouse tail protocol

Proteinase K Digestion and Cell Lysis

Deproteinisation

Extraction with Nucleon Resin

DNA Precipitation

DNA Washing

- High speed (<40 minutes)
- High yield (>40µg/1cm tail)
- High purity ($A_{260/280}$ 1.8-1.9)
- High MWt DNA (≥ 50 kb)
- No phenol or chloroform
- Automation-friendly
- Single protocol for samples of differing age, type, weight and quality

Introduction

The Nucleon genomic DNA extraction kit for mouse tails has been developed to rapidly and efficiently extract high molecular weight DNA from mouse tails. It is designed to eliminate concerns over the use and disposal of chloroform and phenol.

It is also possible to extract DNA from a variety of mouse tissue types, including ear, tail and toe (Figures 1 to 4).

Principle

Following Proteinase K digestion and cell lysis, protein is precipitated and separated from the aqueous phase using the

Nucleon resin. The resin binds proteins by the formation of an imide bond and subsequently traps proteinaceous material in a tight pellet after centrifugation. This eliminates the need for filters which can clog easily. This mechanism ensures excellent recovery of highly pure and highly intact DNA.

Applications

DNA recovered by the Nucleon DNA extraction system is suitable for restriction digests (Figure 1), PCR[†] (Figure 2), blotting and hybridisation.

Figure 1 Mouse tail genomic DNA isolation and restriction enzyme digests

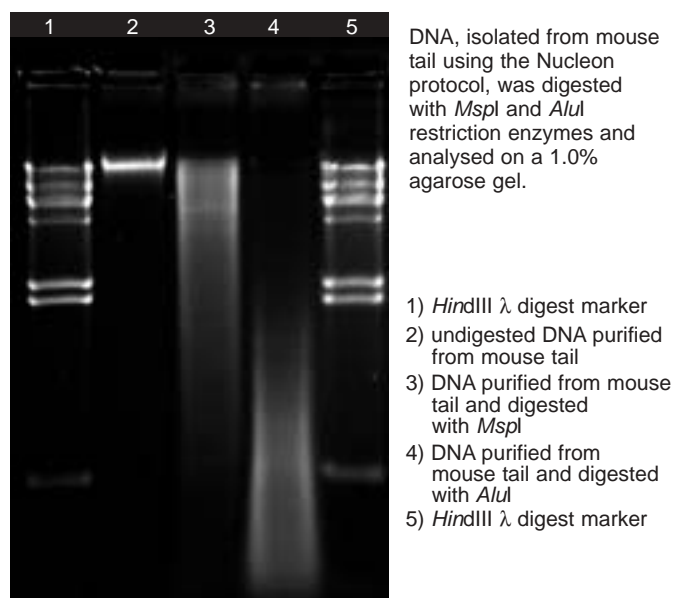


Figure 2 Mouse tail PCR amplification

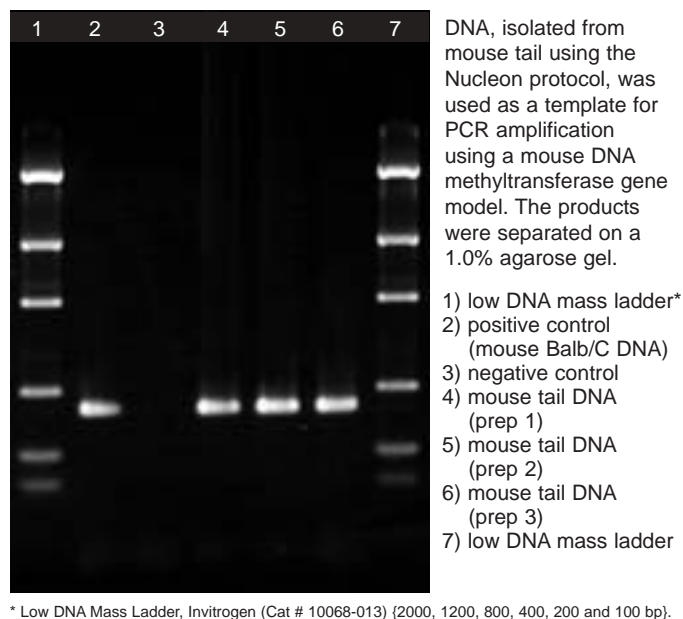


Figure 3 Mouse ear genomic DNA samples

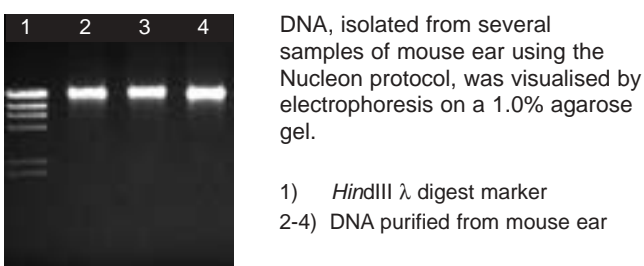


Figure 4 Mouse ear PCR amplification

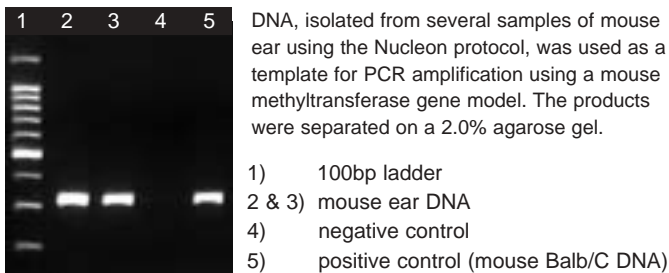


Table 1 Yields and purity of recovered DNA

Sample	Yield of DNA (μ g)	Average A _{260/280}
1cm mouse tail	40 μ g	≥ 1.8

Ordering Information

44200 Nucleon Genomic DNA Extraction kit for 50 preps of 1cm mouse tail

44201 Nucleon Genomic DNA Extraction kit for 200 preps of 1cm mouse tail

Other kits available in the Nucleon range:

- SL8501** Nucleon BACC1 kit for 50 extractions of up to 1ml whole blood or cell cultures
- SL8502** Nucleon BACC2 kit for 50 extractions of between 3 to 10ml of whole blood or cell cultures
- SL8512** Nucleon BACC3 kit for 50 extractions of up to 10ml of whole blood or cell cultures
- SL8508** Nucleon ST kit for 50 preps of up to 250mg of soft tissue
- SL8509** Nucleon HT kit for 50 preps of up to 25mg of hard tissue or paraffin-embedded sections
- SL8510** Nucleon PhytoPure® kit for 50 extractions of 0.1g of plant tissue
- SL8511** Nucleon PhytoPure kit for 50 extractions of 1.0g of plant tissue
- 44100** Nucleon Genomic DNA Extraction kit for 50 preps of 10ml whole blood

44300 Nucleon Genomic DNA Extraction kit for 50 extractions of 0.1g of plant tissue

Other kits available in the Nucleopure™ range for use with the Nucleopure Automated System for mouse tail DNA extraction:

35100 Nucleopure Mouse Tail kit for up to 960 extractions

Other kits available in the Nucleplex™ range for use with the Nucleplex Automated System for BAC/Plasmid DNA extraction:

- 33100** Nucleplex Plasmid DNA extraction kit for up to 192 extractions
- 33200** Nucleplex BAC DNA extraction kit for up to 192 extractions
- 33201** Nucleplex BAC DNA extraction kit for up to 192 extractions (plasticware not included)