

# DNA Kits

High quality kits for DNA Extraction, Purification, Concentration and Size Selection

Obtaining DNA from biological samples is the first and most crucial step in molecular biology. Eluting both high quality and high yield of DNA from a wide range of biological samples can be challenging and can impact the success of downstream applications.

Porvair offers a range of **easy-to-use, easy-to-choose** kits for DNA extraction, purification and size selection. Quickly recover high quality DNA from a myriad of source materials including stubborn, difficult-to-lyse biological samples.

By integrating the industry-leading proprietary filtration material, Porvair allows researchers to effortlessly and efficiently extract, purify and size select DNA. All Kits provide high quality DNA free from contaminants, salts, inhibitors, and degrading enzymes.

## DNA Extraction from cell culture, tissue, whole blood and serum

→ Extract genomic DNA from a wide range of samples with high yield and purity

- Total (genomic and mitochondrial) DNA extraction and purification
- Unique buffer chemistry allows efficient cell lysis in 20 min. (cells, blood, serum) or 1-2 hours (tissue)
- Up to ~ 90 µg DNA from 5x10<sup>6</sup> cells
- Phenol and chloroform free protocol
- Quick 5 step protocol – DNA is extracted in 30 minutes
- High DNA yield and purity

**Starting Material:** cultured cells (up to 5x10<sup>6</sup>), tissue (up to 25 mg), whole blood or serum (up to 25 mg)

**Sample Size:** 50 bp - 23 kb

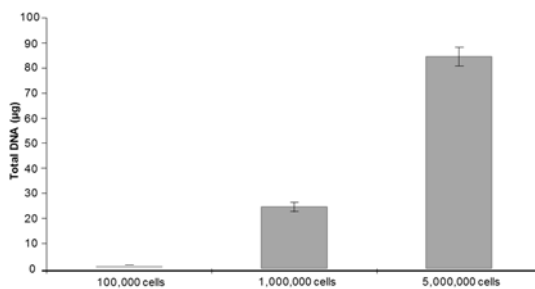
**DNA Purity (A260/A280):** 1.8 - 2.2

**DNA Recovery:** 98 %

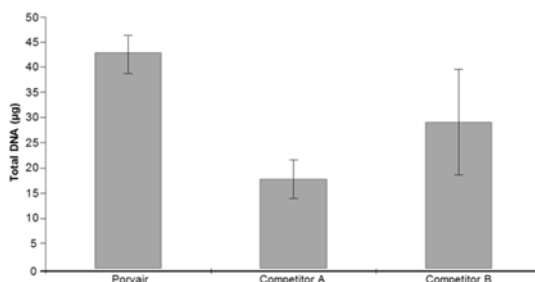
**Elution Volume:** 200 µl

**Applications:** PCR, MeDIP, Southern Blot, Molecular Cloning and Sequencing

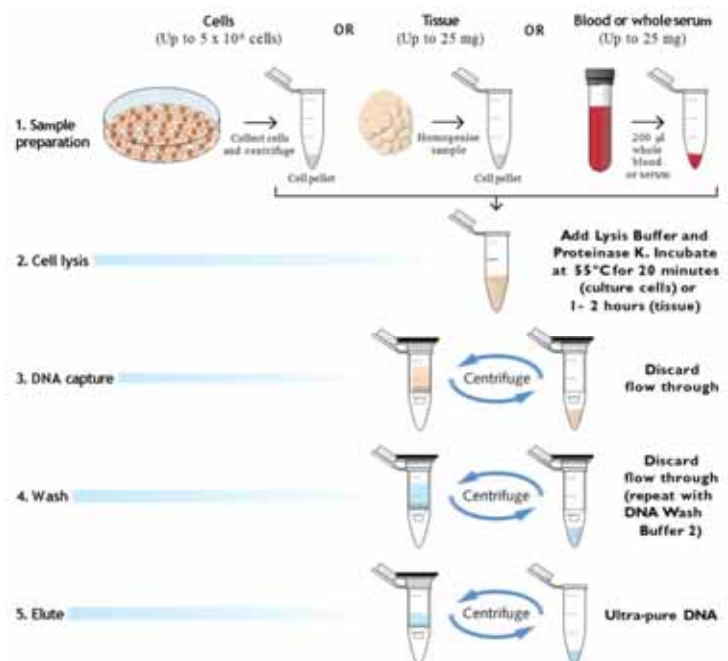
**Format:** 96-well plates or spin column\*



**Figure 1.** DNA was extracted from an endometrial cancer cell line using a range of cell numbers (1x10<sup>5</sup> to 5x10<sup>6</sup>) using the Porvair DNA Extraction kit. All experiments were performed in triplicate.



**Figure 2.** DNA was extracted from an endometrial cancer cell line using 2x10<sup>6</sup> cells using the Porvair DNA Extraction kit or competitor DNA Extraction kits. All experiments were performed in triplicate.



**Figure 3.** DNA Extraction protocol

Cat. No.	Description	Cs.
500261*	DNA Extraction, kit	2
500270	DNA Extraction, filterplate only	4

\* available as spin columns, please inquire for more information

## DNA Size Selection

→ The precise, quick and reliable kit for selecting and purifying a wide range of DNA fragments

- Ideal for removing unwanted DNA fragments such as primer dimers, adapters or nucleotides
- Precise bead-free size selection columns
- Easy-to-choose minimum fragment size:  $\geq 50$  bp,  $\geq 100$  bp,  $\geq 150$  bp or  $\geq 200$  bp
- Quick protocol: < 5 min
- Efficient DNA recovery

**Starting Material:** PCR reactions, ChIP samples, restriction enzyme digestion, ligation, NGS sequencing library reactions

**Sample Size:**  $\geq 50$  bp,  $\geq 100$  bp,  $\geq 150$  bp or  $\geq 200$  bp

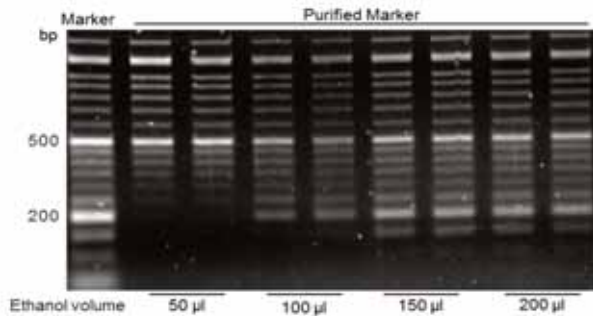
**DNA Purity (A260/A280):** 1.8 - 2.2

**DNA Recovery:** up to 98 %

**Elution Volume:** 20 – 50  $\mu$ l

**Applications:** PCR, ligation, ChIP, MeDIP

**Format:** 96-well plates or spin column\*



**Figure 4.** Porvair's Size Selection Kit was used to purify DNA excluding fragment sizes from 50 - 200 bp. Following purification, 10  $\mu$ l of DNA ladder (50-200 bp) was used per sample. Highly efficient DNA recovery within the expected size range is clearly demonstrated.

Cat. No.	Description	Cs.
500263*	DNA Size Selection, kit	2
500271	DNA Size Selection, filterplate only	4

\* available as spin columns, please inquire for more information

## DNA Purification or Purify & Concentrate

→ Efficiently purify or purify and concentrate DNA that is ready-to-use in downstream applications

- For ultra-pure DNA
- Proprietary filtration media offer much higher loadings of active material
- Buffers are optimized to remove any unwanted impurities
- Quick protocol: < 5 min
- Efficient DNA recovery

**Starting Material:** ChIP samples, restriction enzyme digestion, ligation, PCR reactions, enzymatic reactions

**DNA Recovery:** up to 98 %

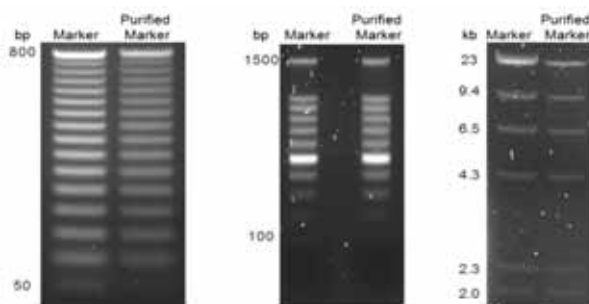
**Size Limits:** 50 bp up to 23 kb

**Maximum binding capacity:** 50  $\mu$ g or 10  $\mu$ g

**Elution Volume:** 25 – 50  $\mu$ l or 5 – 10  $\mu$ l

**Applications:** PCR, sequencing, microarray, ligation, cloning

**Format:** 96-well plates or spin column\*



**Figure 5.** DNA marker was purified using Porvair's DNA Purify Kit. The purified sample was then run on a 2 % agarose gel to determine the relative intensity of the purified sample compared to an unpurified ladder as a control. The unpurified ladder was diluted 1:5 and an equivalent volume (30  $\mu$ l) added to the gel. Staining of the gel indicates that the DNA Purification Kit is capable of purifying DNA fragment sizes from 50 bp to 23 kb.

Cat. No.	Description	Cs.
500220*	DNA Purification, kit	2
500272	DNA Purification, filterplate only	4
500240*	DNA Purify & Concentrate, kit	2
500273	DNA Purify & Concentrate, filterplate only	4

\* available as spin columns, please inquire for more information