Genomic DNA Purification Kit

The prep uses:

- 200µl of whole blood
- 25-30mg of mammalian tissue
- 50-100mg of plant tissue
- 0.4-0.6x10^6 of cultured cells or
  10-20mg of bacteriae mass

Purification Protocol

1 Mix 200µl sample with 400µl **lysis solution**.
Incubate at 65°C for 5min.

2 Add 600µl chloroform, gently emulsify by inversion.
Centrifuge the sample at 10,000rpm for 2min.

3 Prepare **precipitation solution**: mix 720µl water, nuclease-free, with 80µl of the supplied 10X concentrated solution.

4 Transfer the upper aqueous phase containing DNA to a fresh tube.
Add 800µl precipitation solution.
Mix at room temperature for 1-2min.
Centrifuge at 10,000rpm for 2min.

5 Remove supernatant completely.
Dissolve DNA pellet in 100µl 1.2M **NaCl solution**. *Make sure that pellet is completely dissolved.*

6 Add 300µl cold ethanol, let the DNA precipitate (10min at -20°C).
Spin down (10,000rpm, 3-4min).
Pour off the ethanol. Wash the pellet once with 70% cold ethanol.
Dissolve DNA in 100µl water, nuclease-free.

Size and MW of Various DNAs

DNA	Length, bp	MW, Daltons
pBR322	4361	2.8×10^6
SV40	5243	3.5×10^6
ΦX174	5386	3.6×10^6
Adenovirus 2 (Ad2)	35937	2.8×10^7
Lambda phage	48502	3.1×10^7
Escherichia coli	4.7×10^6	3.1×10^9
Saccharomyces cerevisiae	1.5×10^7	9.9×10^9
Dictyostelium discoideum	5.4×10^7	3.6×10^{10}
Arabidopsis thaliana	7.0×10^7	4.6×10^{10}
Caenorhabditis elegans	8.0×10^7	5.3×10^{10}
Drosophila melanogaster	1.4×10^8	9.2×10^{10}
Gallus domesticus (chicken)	1.2×10^9	7.9×10^{11}
Mus musculus (mouse)	2.7×10^9	1.8×10^{12}
Rattus norvegicus (rat)	3.0×10^9	2.0×10^{12}
Xenopus laevis	3.1×10^9	2.0×10^{12}
Homo sapiens	3.3×10^9	2.2×10^{12}
Zea mays	3.9×10^9	2.6×10^{12}
Nicotiana tabacum	4.8×10^9	3.2×10^{12}