



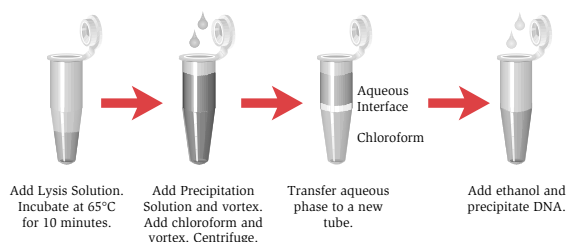
# Fast and Easy Genomic DNA Isolation

Isolation of high-quality genomic DNA is critical for many applications in molecular biology. Most isolation procedures involve numerous steps and take too much time, increasing the chances of DNA degradation. The Easy-DNA™ Kit provides rapid, easy genomic DNA isolation. In addition to being fast and easy to use, the Easy-DNA™ Kit yields high-quality genomic DNA perfect for use in PCR, DNA hybridization, or genomic DNA library construction.

## simple process

The Easy-DNA™ Kit is simple to use. Depending on your sample, you can isolate DNA in as little as 30 minutes. In just a few easy steps you're done (Figure 1). There's no spooling of DNA, no CsCl density gradients, no phenol extractions, and no long incubations. You'll save time and get better results.

Figure 1 - Easy-DNA™ procedure



## high-quality DNA from a variety of samples

The Easy-DNA™ Kit can be used to isolate genomic DNA from a variety of samples. Sample sizes can range from 0.5 µl of blood or a single hair follicle to 1 gram of mammalian tissue. Other samples tested with the Easy-DNA™ Kit include mouse tails\*, plant leaves, yeast cells, and *E. coli* (Table 1). All yielded high-quality DNA between 100 and 200 kb and generated specific PCR products. Three key factors contribute to the yield and quality of the DNA isolated with the the Easy-DNA™ Kit:

- Efficient cell lysis enables complete release of the DNA
- Efficient inactivation of nucleases reduces DNA degradation
- Reduction of the number of manipulations decreases the chances of DNA degradation and loss

Table 1 - Typical yields using the Easy-DNA™ Kit

Sample	Amount	Starting Amount	Yield
Blood	Whole, fresh	1 µl	7.5 ng
	Frozen	10 µl	22.5 ng
Cells	Suspension, Sf9 cells	1 x 10 <sup>7</sup>	177.5 µg
	Trypsinized, HeLa cells	1 x 10 <sup>7</sup>	10.75 µg
Tissue	Human brain	87 mg	170 µg
	Human liver	300 mg	1.54 mg
	Rat heart	500 mg	110 µg
	Mouse tail	1 cm	76 µg
Plant	Spider leaf	50 mg	4 µg
Yeast	<i>Pichia pastoris</i> cells	4 x 10 <sup>9</sup>	850 µg
<i>E. coli</i>	INVαF <sup>+</sup> (OD <sub>550</sub> =2.4)	~ 10 <sup>9</sup> cells	37 µg

\* Isolation of DNA from mouse tails requires an overnight lysis; however, subsequent steps take only 60-90 minutes.

## high-quality DNA guaranteed

To ensure that the highest quality DNA is isolated, all of the solutions in the Easy-DNA™ Kit are guaranteed to be nuclease-free. In addition, the kit is tested for consistency and reliability by isolating genomic DNA from  $1 \times 10^6$

*Spodoptera frugiperda* (Sf9) insect cells. The yield of DNA must be greater than 10 µg. Lastly, digestion by *EcoR* I must yield lower molecular weight products as confirmed by gel electrophoresis.

## complete flexibility

The Easy-DNA™ Kit contains reagents for over 150 samples depending on the size and sample type used (Table 2). To optimize the isolation of genomic DNA, the Easy-DNA™ Kit includes:

- Mussel Glycogen to help precipitate low amounts of DNA
- RNase to remove RNA
- Protein Degradator to break down mouse tails and difficult tissues for improved release of DNA

The Easy-DNA™ Kit comes with a comprehensive manual that provides protocols and guidelines for isolating genomic DNA from a variety of sources and sample sizes. You'll have the flexibility to design and optimize genomic DNA isolation for your own unique sample.

Table 2 - Examples of sizes and types of samples

Sample	Sample Size	Reactions*
Blood	1-100 µl 10 µl	over 150 15
Eukaryotic Cells (suspension or trypsinized)	$10^3 - 10^7$ $10^7 - 10^9$	over 150 15
<i>E. coli</i> Cells	$10^8 - 10^9$	over 150
Mammalian Tissue	35 - 100 mg 100 mg - 1 g	over 150 15
Plant Leaves	50 mg	over 150
Mouse Tails	1 cm	over 150

\*Number of reactions depends on sample size.

## give us a call

To speed up isolation of genomic DNA without sacrificing quality or time, order your Easy-DNA™ Kit from Invitrogen. Call us today.

Description	Reactions	Cat. no.
Easy-DNA™ Kit	15-200	K1800-01

†Number of reactions will vary depending on size and type of sample.



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