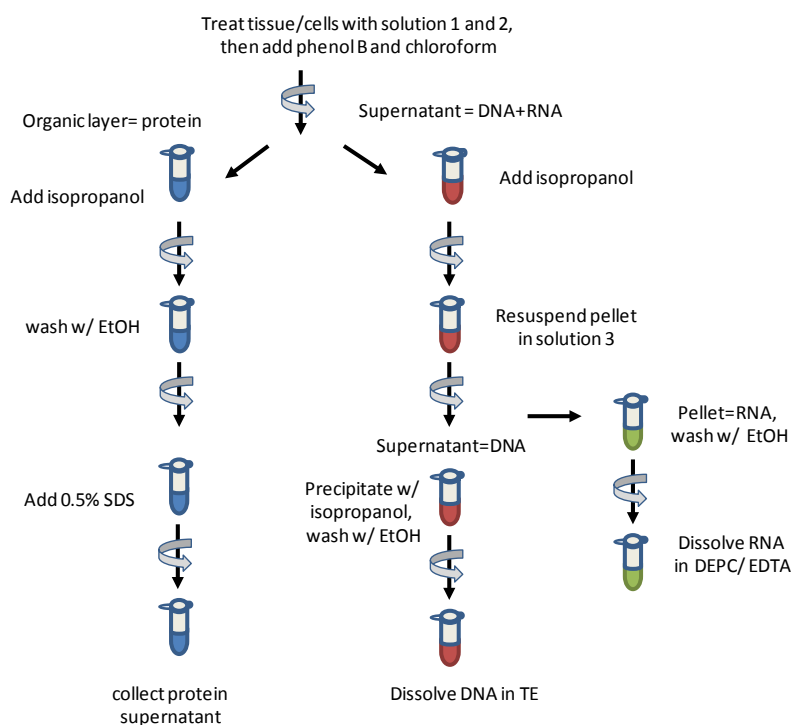


# BioChain's Dr. P (DNA, RNA, Protein) Extraction Kit

For Extraction of DNA, RNA and Protein Simultaneously from a Single Sample

## Purifying DNA, RNA, and Protein from a Single Sample



Extraction of DNA, RNA, and proteins is the most commonly used method in many biological sciences. The reliable and coordinated extraction of DNA, RNA, and protein from a single sample is crucial for determining correlations among genome, transcriptome, and proteome. BioChain's Dr. P Kit efficiently extracts DNA, RNA, and protein simultaneously from the same cell or tissue sample, eliminating inconsistency in lysate preps from different samples. Additionally, instead of performing 3 separate setups, one Dr. P Kit purifies the desired DNA, RNA, and protein. The quality and quantity of each extract are comparable to or better than Trizol extractions.

## Key Features

- Simultaneous isolation of Genomic DNA / Total RNA / Total Protein from the same cells or tissue preparation
- Eliminating inconsistency in lysate preps from different samples
- No cross contamination
- Versatile for small and large scale samples
- Facilitate direct comparisons of genome, transcriptome, and proteome
- Saves valuable biomaterials for subsequent analysis

## Applications:

### Isolated RNA can be used for

- mRNA isolation
- Probe generation
- RT – PCR
- cDNA microarray study
- microRNA study
- Northern Blot analysis
- Primer extension
- RNA protection assay
- *In vitro* translation
- RNA Next Generation Sequencing

### Isolated DNA can be used for

- PCR amplification
- Array CGH analysis
- Copy Number Variation analysis
- DNA Next Generation Sequencing

### Isolated Protein can be used for

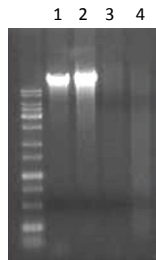
- Western Blot analysis

## Data showing DNA, RNA, and protein extracted from a single human liver tissue using Dr. P Kit

- Results are comparable to or better than Trizol

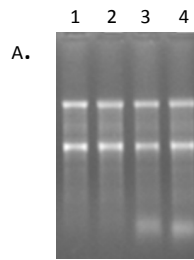
DNA yield	RNA yield	Protein yield
Dr. P = 3.9 mg/g tissue	Dr. P = 0.98 mg/g tissue	Dr. P = 54.9 mg/g tissue
Trizol = 0.5 mg/g tissue	Trizol = 1.0 mg/g tissue	Trizol = 7.8 mg/g tissue

### Comparison of liver DNA and RNA extracts using Dr. P Kit and Trizol



**Fig. 1.** Comparison of extracted DNA using Dr. P Kit and Trizol.

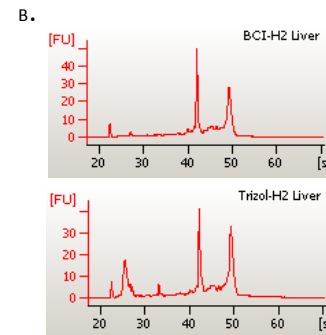
Lane 1: DNA extracted using Dr. P Kit  
 Lane 2: DNA extracted using Dr. P Kit with RNase  
 Lane 3: DNA extracted using Trizol  
 Lane 4: DNA extracted using Trizol with RNase  
 Left most lane: 1Kb ladder



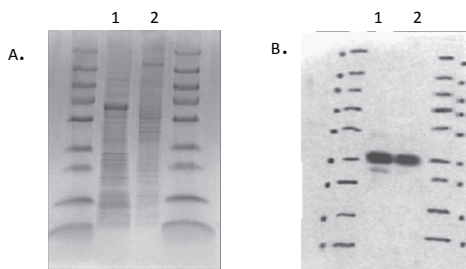
**Fig. 2.** Comparison of RNA extracted using Dr. P Kit and Trizol.

**A.** Image of RNA gel.  
 Lane 1: RNA extracted using Dr. P Kit  
 Lane 2: RNA extracted using Dr. P Kit with DNase  
 Lane 3: RNA extracted using Trizol  
 Lane 4: RNA extracted using Trizol with DNase

**B.** RNA Integrity numbers were determined for the extracted RNAs. Top electropherogram corresponds to lane 2 in Fig. 2A, (28S/18S:1.1, RIN:8.2). Bottom electropherogram corresponds to lane 4 in Fig. 2A, (28S/18S: 1.5, RIN:8.3).



### Comparison of liver protein extracts using Dr. P Kit and Trizol



**Fig. 3.** Comparison of liver protein extracts using Dr. P Kit and Trizol.

**A.** Image of extracted proteins separated on SDS gel.  
 Lane 1: Total proteins extracted using Dr. P Kit  
 Lane 2: Total proteins extracted using Trizol  
**B.** Western blot analysis of the extracted protein using anti-GAPDH.  
 Lane 1: Protein extracted using Dr. P Kit  
 Lane 2: Protein extracted using Trizol

Catalog No.	Product	Unit
K2021010	Dr. P Kit	1 kit
K2021010-1	Dr. P Kit-Solution 1	50 ml
K2021010-2	Dr. P Kit-Solution 2	6 ml
K2021010-3	Dr. P Kit-Solution 3	50 ml

Please inquire about our other kits and applications.