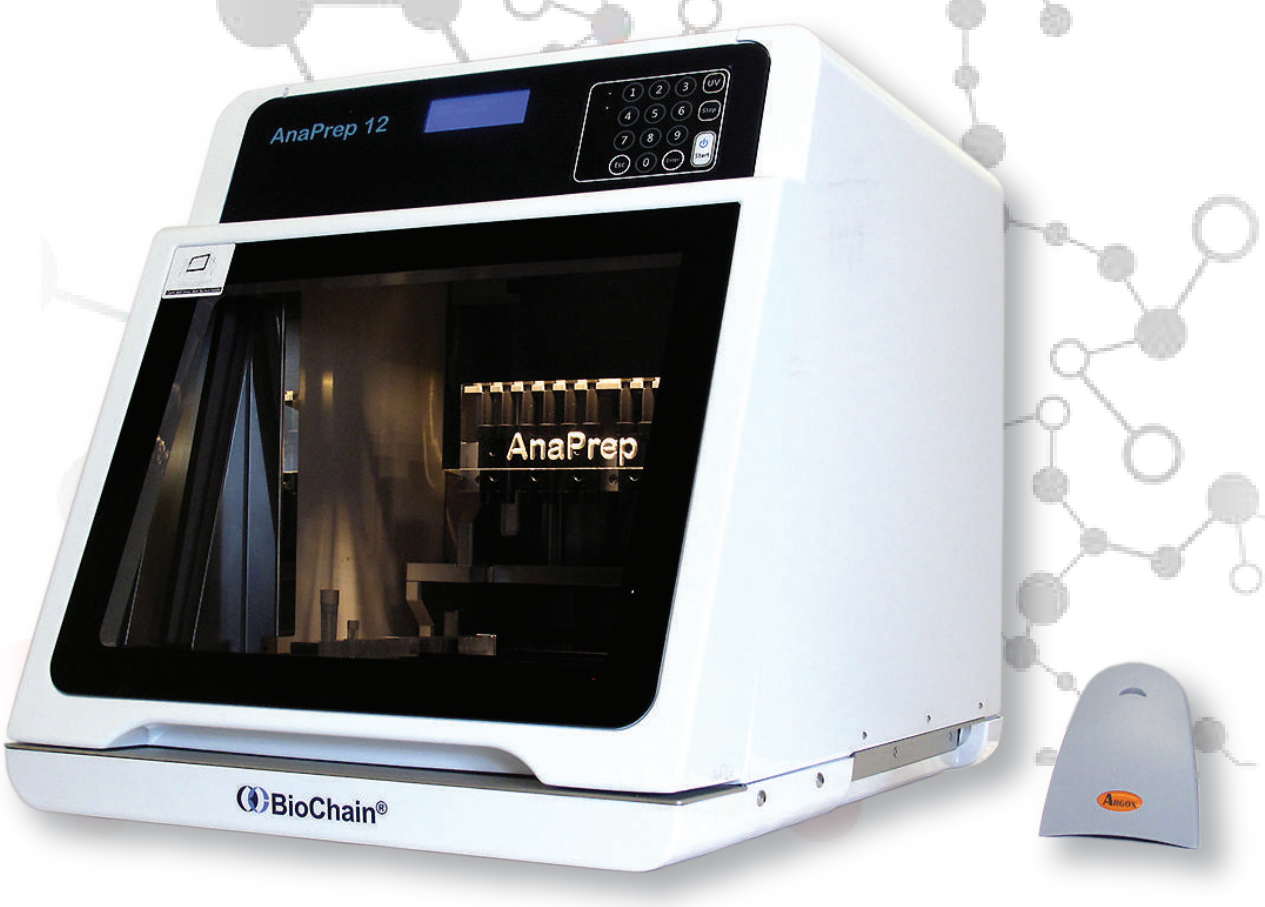
PROTEIN PRODUCTS

Large Selection of High Quality Protein, Protein Extraction Kits, and Analysis

BioChain®

Sample Preparation for Diagnostics and Life Science Research

AnaPrep 12: Simplifying DNA & RNA Extraction



Automated Nucleic Acid Preparation System

BioChain®

- True Walk Away System
- Time Saving Efficiency
- Small Footprint
- No Cross Contamination
- Quick Barcode Protocol

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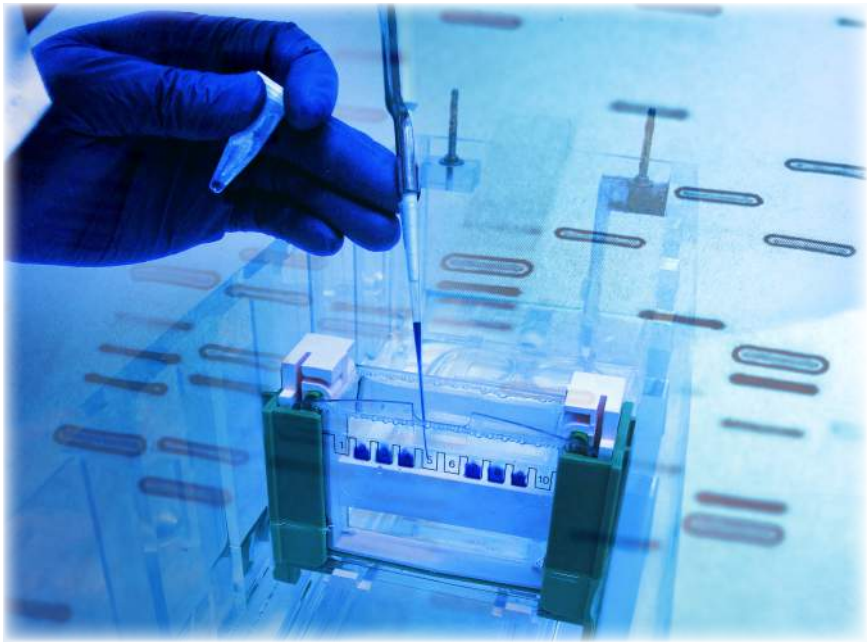
Fast Isolation and Extraction of High-Quality Protein

BioChain is the leading company in extracting protein from hundreds of different tissues and cells. A series of protein extraction kits developed by BioChain support extraction of premium protein to our customers. These kits are also provided to our customers in order to allow them to extract protein in a simple and reliable way.

Available Kits:

- **Dr. P Kit**
- **CNMCS Compartmental Protein Extraction Kit**
- **CNM Compartmental Protein Extraction Kit**
- **Membrane Protein Extraction Kit**
- **Total Protein Extraction Kit**
- **Mitochondria Isolation Kit**



Dr. P Kit

Key Benefits & Features

- Genomic DNA, RNA, and Protein isolated simultaneously from a single biomaterial source, such as tissue or cells
- Ideal for small and large scale samples
- Free of contaminations by polysaccharides, proteoglycans, and RNase
- DNA, RNA, and protein isolated from same lysate thus eliminating inconsistency

Fig. 1. Gel image of genomic DNA, Total RNA, and total Protein extracted from the same piece of human colon tissue by the Dr. P Kit. Lane 1: Genomic DNA on 2% agarose gel. Lane 2: Total RNA on 1.2% agarose gel. Lane 3: Protein lysate on 4-20% SDS-PAGE gradient gel.

CNMCS Compartamental Protein Extraction Kit

Provides an innovative, easy-to-perform, and cost-effective method to sequentially isolate cytoplasmic, nuclear, membrane, and cytoskeletal proteins from tissues and cells.

Key Benefits & Features

- Provides all components for stepwise preparation of proteins from tissues and cells
- Isolate four compartamental proteins in less than three hours
- Increase detection sensitivity by enriching a subset of proteins of interest
- Easy to use compared to other methods such as differential centrifugations

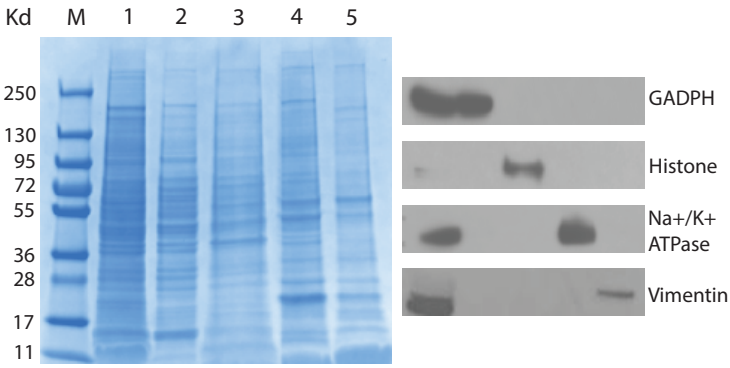


Fig. 2. Comparison of Protein Extraction
Total Protein and compartmental proteins extracted from human brain tissue using BioChain's Total Protein Extraction Kit and CNMCS Compartmental Protein Extraction Kit.
Left: Coomassie stained gel with distinct protein pattern of respective fractions. Right: Western blot with specific markers GAPDH (cytoplasmic), Histone H1 (nuclear), Na+/K+ ATPase (membrane), and Vimentin (cytoskeleton).
Lane 1: Total Protein. Lane 2: Cytoplasmic Protein.
Lane 3: Nuclear Protein. Lane 4: Membrane Protein.
Lane 5: Cytoskeleton Protein.

Catalog No.	Product	Unit
K2021010	Dr. P Kit-Isolation of RNA, DNA and Protein	1 kit
K3013010	CNMCS Compartmental Protein Extraction Kit	1 kit

Protein Extraction Kits

Membrane Protein Extraction

Key Benefits & Features

- Higly reproducible, separation of membrane proteins from a variety of samples
- No ultracentrifugation or complex gradients
- Isolate membrane proteins in less than two hours

Total Protein Extraction Kit

Excellent tool for initial purification and preparation of proteins from any tissue or cell. Total proteins are isolated under native conditions and can be used for SDS-PAGE, Western Blot, protein assays and other procedures.

Key Benefits & Features

- Isolate protein from large samples
- Isolate protein either from tissues or from cultured cells
- Purifiy intact proteins

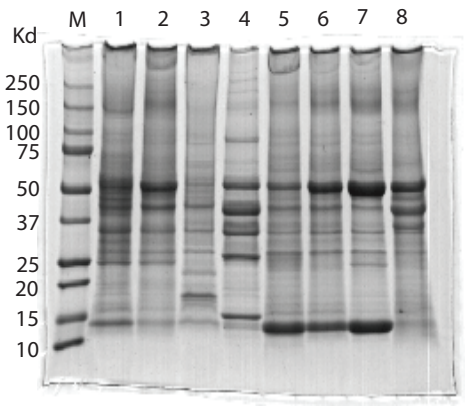


Fig. 3. Total proteins isolated from 8 different human tissues with Total Protein Extraction Kit. 50 µg proteins per lane on 4-20 % gradient SDA-PAGE gel. Lane 1: Liver. Lane 2: Kidney. Lane 3: Brain. Lane 4: Skeletal Muscle. Lane 5: Spleen. Lane 6: Lung. Lane 7: Placenta. Lane 8: Stomach.

Mitochondria Isolation Kit

Key Benefits & Features

- Procedures can be performed within an hour, no ultra centrifugation needed
- Superb quality and highly reproducible isolation of mitochondria
- Provide the highest possible yield of intact enzymatically active mitochondria

Catalog No.	Product	Unit
K3014005	Membrane Protein Extraction Kit	1 kit
K3011010	Total Protein Extraction Kit	1 kit
KC010100	Mitochondria Isolation Kit (Tissue and Cultured Cells)	1 kit

Attoglow Western Blot Analysis Kit

Attoglow Western Blot Analysis Kit is an ultra-sensitive chemiluminescent Western blot detection kit. It detects protein at attogram (10^{-18}g) or yoctomole (10^{-24}M) levels. This kit consists of four parts: Millennium Enhancer, protein interaction reagent, detection reagents, a unique blocking reagent. Millennium Enhancer works through through a novel mechanism by increasing antigen and antibody affinity and accessibility.

Key Benefits & Features

- Detects antigens at extremely low levels, very useful for low copy genes or antibodies with low sensitivity
- 100% enhancement on top of all kinds of chemiluminescent substrates
- Competitively priced
- Compatible with PVDF, nitrocellulose, and nylon membranes

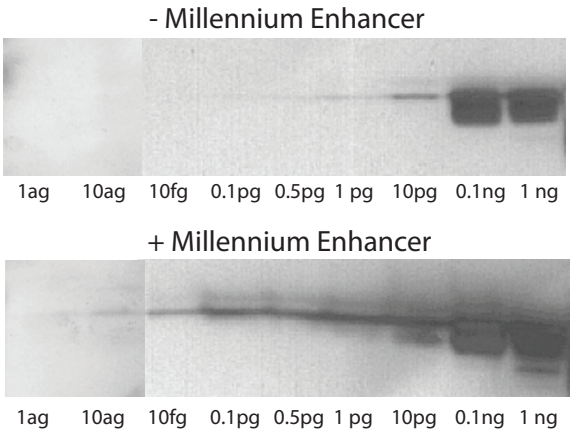
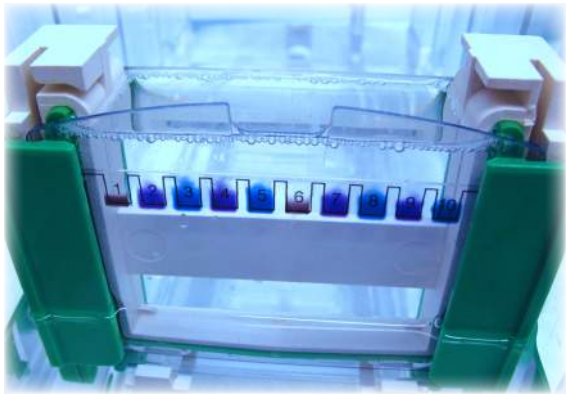


Fig. 4. One nanogram of purified rabbit muscle GAPDH was serially diluted to 1 attogram and electrophoresis was performed. The gel was transferred to a PVDF membrane and cut into two. One was treated with Millennium Enhancer and one was untreated. Film was exposed for two minutes. The intensities of the GAPDH bands are similar for 10pg lane in blot without treatment (top) and for 10fg lane in blot with treatment (bottom). This indicates a 1000-fold enhancement.

Attoglow Western Blot Enhancing Kit

Attoglow Western Enhancing Kit can be used independently to boost western blot signal. This kit is compatible with any kind of chemiluminescent western detection kit. It is also compatible with other enhancing mechanisms to achieve multiple enhancing effects. With the enhancer, many of the low expression proteins can be detected.



Catalog No.	Product	Unit
K3171120-I	Attoglow Western Blot Analysis Kit-Anti mouse secondary antibody	1200 cm^2
K3171120-II	Attoglow Western Blot Analysis Kit-Anti rabbit secondary antibody	1200 cm^2
K3171120-III	Attoglow Western Blot Analysis Kit-Anti chicken secondary antibody	1200 cm^2
K3171120-IV	Attoglow Western Blot Analysis Kit-Anti goat secondary antibody	1200 cm^2
K3172120	Attoglow Western Blot Enhancing Kit	1200 cm^2
K3172250	Attoglow Western Blot Enhancing Kit	2500 cm^2

ImmuChem Immunohistochemistry (ICH) Kit

ImmuChem immunohistochemistry detection kit is a reliable and convenient tool to identify specific gene expression on tissues or immobilized cells. Each kit contains all reagents, including buffer and chromogen, required for the immunohistochemistry. A biotinylated, cross-absorbed, and affinity purified secondary antibody is used to detect primary antibody-antigen complexes adhered to a glass microscope slide, followed by reaction with enhanced streptavidin peroxidase conjugate and subsequent color development using 3, 3-Diaminobenzidine (DAB) substrate.

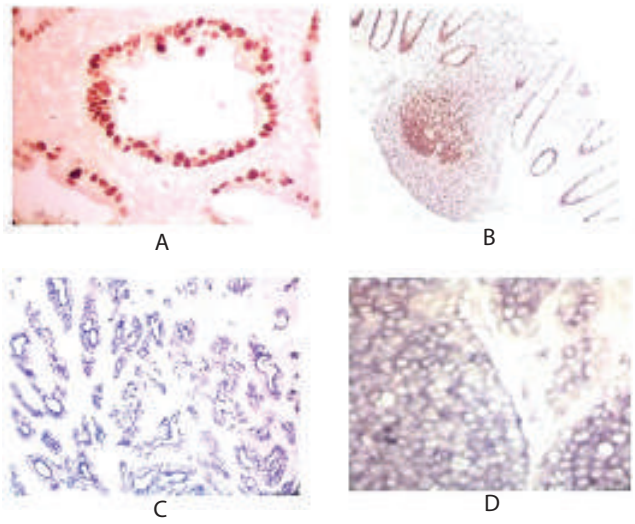


Fig. 3.5 The images of several BioChain's tissue sections stained by the ImmuChem IHC Kit. A: Ovary tumor tissue stained with P53 antibody (400x); B: Normal colon lymph node tissue stained with EGFR antibody (100x); C: Breast tumor tissue stained with EGFR antibody (100x); D: Breast tumor tissue stained with EGFR antibody (400x).

Key Benefits & Features

- Can be used for both frozen and parrafin embedded tissue sections
- Highly optimized procedures
- Straight foward instructions and color coded reagents easily adapted by a novice or expert
- Maximum sensitivity with high specific signal and low background
- May immunostain the same tissue section after *in situ* hybridization with BioChain's IsHyb ISH Kit

Catalog No.	Product	Unit
K3181100	ImmuChem ImmunoHistoChemistry Kit	100 slides
K3181500	ImmuChem ImmunoHistoChemistry Kit	500 slides

Universal Protein Lysate

Universal Protein Lysate is total protein isolated from whole tissue sources and can be used as controls for antibody microarray study. BioChain's Universal Protein Lysate is prepared from highly diversified organs to ensure the broadest coverage of proteins. Our Universal Protein Lysate is made on an industrial scale to minimize the lot-to-lot variation. Human universal protein lysate is prepared from over 28 different human adult normal and fetal normal major organs. Mouse universal protein lysate is prepared from several male and female mice whole bodies without fur. Rat universal protein lysate is prepared from several male and female rat whole bodies without fur. Total protein is isolated by BioChain's Total Protein Extraction Kit (Cat# K3011010)

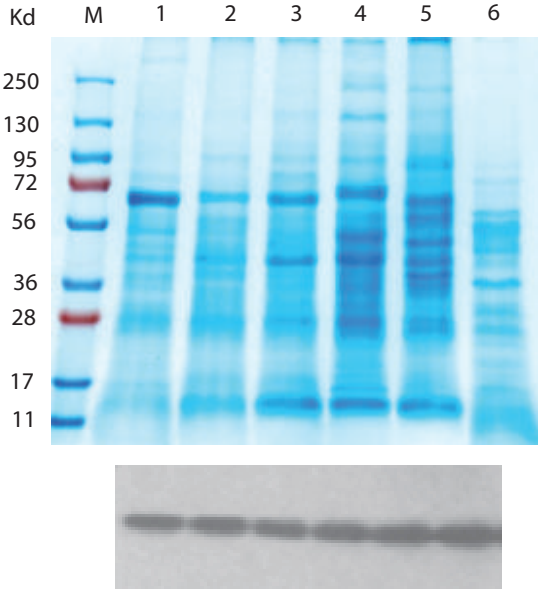


Fig. 3.8. Universal Protein Lysate Image
Panel A: Universal Protein Lysate on SDS-PAGE gel after stained by commassie blue
Panel B: Western Blot Analysis by anti-GAPDH monoclonal antibody
Lane 1: Human Universal Protein Lysate
Lane 2: Mouse Universal Protein Lysate
Lane 3: Rat Universal Protein Lysate
Lane 4: Dog Universal Protein Lysate
Lane 5: Chicken Universal Protein Lysate
Lane 6: Monkey Universal Protein Lysate

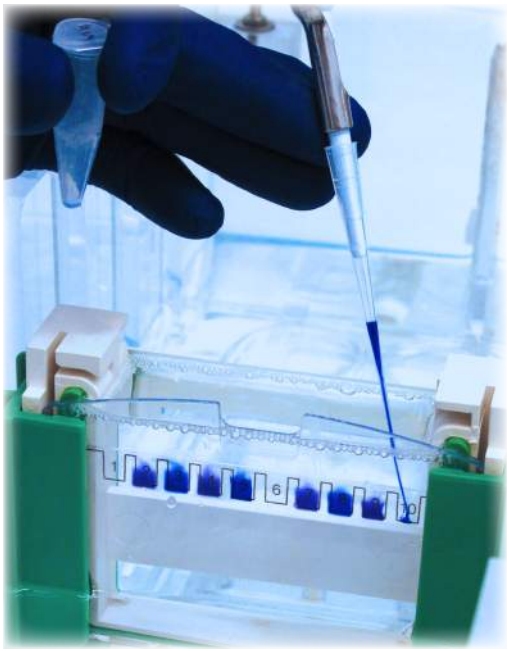
Key Benefits & Features

- Can be used as a reference for any kind of array study
- Made from very diversified tissues for broad protein coverage
- Industrial production scale to minimize lot-to-lot variation
- High quality

Catalog No.	Product	Unit
P4234565	Universal Protein Lysate: Human Normal Tissues	4x0.5 mg
P4234565-1	Universal Protein Lysate: Human Normal Tissues	2x0.5 mg
P4334566	Universal Protein Lysate: Mouse Normal Tissues	4x0.5 mg
P4334566-1	Universal Protein Lysate: Mouse Normal Tissues	2x0.5 mg
P4434567	Universal Protein Lysate: Rat Normal Tissues	4x0.5 mg
P4434567-1	Universal Protein Lysate: Rat Normal Tissues	2x0.5 mg
P4534565	Universal Protein Lysate: Monkey Normal Tissues	4x0.5 mg
P4534565-1	Universal Protein Lysate: Monkey Normal Tissues	2x0.5 mg

Tissue Protein Lysate

Tissue Protein Lysate includes high quality proteins isolated from a large variety of human adult and fetal normal tissues. There are two types of tissue proteins, including total protein, and membrane protein available from many different types of human tissue and other species as well. You no longer need to acquire tissues and isolate protein. Instead you can immediately analyze your protein of interest, conserving valuable research time.



Key Benefits & Features

- The largest tissue resource from human, mouse, rat, monkey, and plants on the market
- High quality, with intact structure
- Clinical history of tissue specimens is available upon request
- Proteins from different target localizations: nuclear, membrane, cytoplasmic, cytoskeletal, as well as total protein

Membrane Protein

Tissue membrane protein is prepared from whole tissue homogenates and presents a consistent pattern on SDS-PAGE analysis. The protein is stored in a buffer with protease inhibitor cocktail.

Key Benefits & Features

- Extracted from the largest tissue sources on the market
- High quality with intact structure
- Use for enzymatic activity analysis, protein-protein interaction analysis, tissue specific expression identification, and mass spec analysis

Available Stock Samples

- Human Adult Normal
- Human Fetal Normal
- Human Tumors
- Human Diabetes
- Human Heart Diseases: arrhythmia, arteriosclerosis, congenital, congestive, hypertension
- Human Neurological Diseases: Alzheimer's disease, Parkingson's disease, dementia, depression, multiple sclerosis, progessive nuclear palsy
- Human Lung Diseases: asthma, bronchitis, emphysema, pneumonia, embolism
- Human Liver cirrhosis
- Human Lupus
- Mouse Normal

Total Proteins

Total proteins and compartmental proteins, including cytoplasmic protein, membrane protein, and cytoskeletal protein, are isolated from approximately 200 different human adult and fetal tissues, human diseased and tumor tissues, as well as from mouse, rat, monkey, and plant tissues. The total proteins are the most popular products for researchers studying protein expression among different tissues.

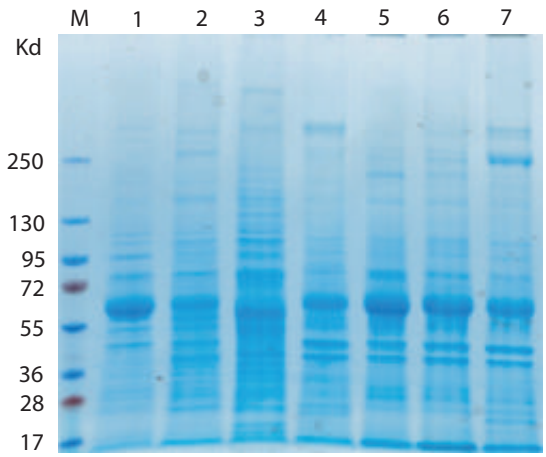


Fig. 3.9 Protein lysate on SDS-PAGE gel after coomassie staining. Western analysis of GAPDH. Lane 1: human skin lysate; Lane 2: human liver cirrhosis kidney lysate; Lane 3: human Subcutaneous adipose lysate; Lane 4: human liver cirrhosis prostate lysate; Lane 5: human ureter lysate; Lane 6: human ureter lysate; Lane 7: human ductus deferens.

Key Benefits & Features

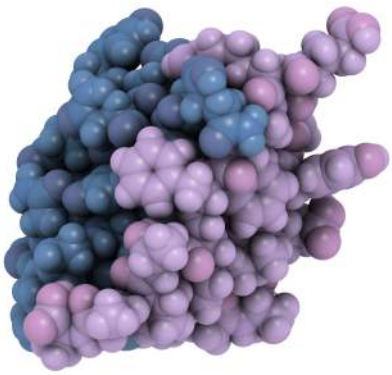
- The largest tissue resource from human, mouse, rat, monkey, and plants on the market
- High quality, with intact structure
- Clinical history of tissue specimens is available upon request
- Proteins from different target localizations: nuclear, membrane, cytoplasmic, cytoskeletal, as well as total protein

Selection of Membrane Protein and Total Protein

Catalog No.	Product	Unit
P3234086	Membrane Protein - Human Adult Normal Tissue: Breast	0.1 mg
P3236052Alz	Membrane Protein - Alzheimer's Disease:Brain: Hippocampus	0.1 mg
P3234152	Membrane Protein - Human Adult Normal Tissue: Lung	0.1 mg
P3244183	Membrane Protein - Human Fetal Normal Tissue: Ovary	0.1 mg
P1234035	Total Protein - Human Adult Normal Tissue: Brain	1 mg
P1236122Hd-1	Total Protein - Arrhythmia, infarct: Heart	1 mg
P1235218A	Total Protein - Human Tumor Tissue: Melanoma	1 mg
P1236248Dia	Total Protein - Human Diabetic Diseased Tissue: Stomach	1 mg

Total Protein Western Blots

Total Protein Western Blots are specifically designed for proteomics, gene discovery, and functional analysis. All products are manufactured using high quality total proteins from a wide variety of human adult and fetal normal tissues, human diseased and tumor tissues, mouse, rat, monkey, and plant tissues.



Key Features

- High sensitivity and low background
- Normalization based on the amount of protein used on blots
- Inter-blot control built into every blot
- Broad selection from a wide variety of tissues
- Suitable for both radioactive and non-radioactive detection
- Documentation of tissues' clinical history is available
- Identical format of Northen blots and paraffin tissue section panels are available for PCR

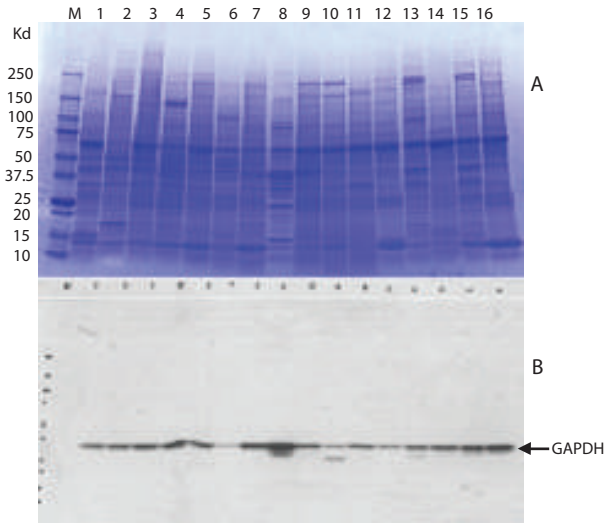


Fig. 3.11. Image of Proteins on SDS-PAGE Gel and Western Blot (Cat. No. W1234404) Analyzed by GAPDH Antibody. A.Coomassie blue stained proteins from 16 different human normal organs on 4-20% SDS-PAGE gradient gel. B.Western Analysis of the 16 proteins by GAPDH antibody. The proteins from lane 1 to lane 16 are: Heart, Brain, Kidney, Liver, Lung, Pancreas, Spleen, Skeletal Muscle, Stomach, Small Intestine, Colon, Rectum, Uterus, Prostate, Testis, and Placenta.

Applications

- Identifying specific protein expression in a wide variety of tissues
- Determining protein size
- Analyzing protein expression patterns
- Comparing expression levels of novel proteins
- Examining alternative splicing and premature termination of specific proteins

Custom Service

We offer custom synthesis of Total Protein from various types of samples, such as blood, serum, FFPE tissue, and frozen tissue. Please contact us at info@biochain.com

BioChain®

Aiding the development of life science research - one hand at a time.

BioChain®

Sample Preparation for Diagnostics and Life Science Research

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