Tissue cDNA, First Strand, Human Adult Normal, Peripheral Blood Leukocyte, BioGenomics™

Catalog number

T5595-0171

Supplier

United States Biological

BioGenomics™ Tissue cDNA: cDNA is supplied as First Strand, Multiple Tissue Panels, and Matched Pairs. PCR-ready First Strand cDNA is tissue specific and are ready-to-use for gene discovery or expression analysis. Over 350 cDNAs from human adult and fetal normal tissues, human diseased and tumor tissues, rat, mouse, monkey and plant tissues are included in this extensive collection.

PCR Ready First Strand cDNAs is an excellent source of tissue specific, PCR-ready cDNA, and it can be immediately used for gene discovery or expression analysis. First-Strand cDNA is synthesized from RNA isolated from a wide variety of documented human adult and fetal normal tissues, human diseased and tumor tissues, mouse, rat, monkey and plant tissues. Total RNA used for cDNA synthesis is isolated by modified guanidine thiocyanate techniques. 11ug total RNA was primed by an oligo dT primer and reverse transcribed by MMLV reverse transcriptase in 40ul final volume. RT Reaction stopped by heating at 65°C for 10 minutes. The cDNA is in 1X RT buffer. (1X RT Buffer

50 mM Tris-Cl, pH 8.3, 75mM KCl, 3mM MgCl2, 10mM DTT).

Unit Definition

1ul cDNA is good for one PCR reaction.

Features

Ready to use for PCR
Oligo dT primer used to ensure the entire 3' end of cDNA is present
With some cDNA used as templates, 12kb PCR amplicon was obtained to ensure the intactness of cDNA
The largest selection of cDNAs from different tissues on the market
Documentation of tissues' clinical histories available (additional cost)

Quality Control

1. The integrity of the RNA used for cDNA synthesis is examined by visual inspection for the presence of intact bands of 18s and 28s ribosomal RNA when electrophoresed on a denaturing agarose gel. The quality and purity of total RNA were tested by spectrophotometer. A260/280 is between 1.8 and 2.0 (detected in 10mM Tris-Cl, pH 7.5). The ratio of 28S/18S is ≥ 1.
2. The RNA used for cDNA synthesis is treated by DNase I, and is tested as DNA free RNA by PCR.
3. The synthesized cDNA was 5’ selected to ensure its full length. The cDNA was used as template for PCR amplification of b-actin gene and an 838bp b-actin band was visualized on 2% agarose gel. b-Actin control primer is included (T5595-0010).

T5595-0010

b-Actin control primer (included)

Applications

Immediate PCR Amplification of known genes. Verification of genetic mutation.
Comparison of a specific gene between different tissues. Analysis of mRNA alternative splicing. Gene cloning and target sequencing.

Storage and Stability

Aliquot to avoid repeated freezing and thawing. Store at -20°C. Aliquots are stable for 6 months after receipt at -20°C. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.

Unique Features of cDNA

PCR Ready First Strand cDNA is made from our high-quality total RNA. Each cDNA is a premade, tissue-specific “pool” of first strand cDNA from which full-length genes can be amplified by using sets of gene-specific primers. They can also be used to study tissue-specific gene expression and to find not only polymorphic forms of mRNA but also mRNA belonging to a multigene family. The following features have been integrated into our cDNA products to ensure their superior quality.

1. Three formats of cDNA products are available
There are three types of cDNA products to choose from

PCR ready first strand
cDNA, tumor/adjacent normal paired cDNA, and cDNA panels.

2. RNAs with high quality are used for cDNA synthesis
The cDNA synthesis will not be successful using degraded or contaminated RNA, because degraded RNA will not generate full-length cDNA, and contamination may inhibit the synthesis of cDNA. The RNAs isolated by BioChain’s proprietary technology are pure and intact from primary tissues. These RNAs therefore ensure a very high quality of cDNAs.

3. Efficient reverse transcription is guaranteed
An incorporation test is integrated into our quality control procedure for cDNA synthesis. Every cDNA product must pass a standard high incorporation.

4. cDNA is full length
All cDNA products are reverse transcribed with oligo dT primer, and 5’ selected. With the cDNAs as template, 5’ and 3’ regions of Clathrin, a relatively low abundance gene, are amplified by PCR. The generation of PCR products indicates the gene is not only expressed but is also full length. Since the size of clathrin is over 6kb, any genes less than 6kb are guaranteed to be full length.

5. The cDNA gene expression profile is the same as the mRNA profile
The expression patterns of any genes from different tissue cDNAs are the same as total RNA or mRNA. The cDNA can be used not only for amplification of a gene fragment but also for gene quantification.

6. Placenta cDNA is established as a gene expression standard
Any gene expression data generated anywhere or anytime can be compared with this standard.

7. The largest selection of tissue cDNAs on the market
United States Biological provides tissue cDNAs from different human adult and fetal normal tissues, diseased and tumor tissues, mouse, rat, monkey, and plant tissues.

8. Tumor/adjacent normal tissue cDNA pairs and cDNA panels are available
Tumor/adjacent normal cDNA pairs and cDNA panels combine high quality cDNAs selected from

almost 200 different human adult and fetal normal tissues, diseased and tumor tissues, mouse, rat, monkey, and plant tissues. Each panel contains a variety of cDNAs from different tissues. All cDNAs in a panel are made under optimized and consistent conditions, ensuring that cDNA gene expression profiles are the same as those of total RNA.

Our cDNA panel is provided ready for PCR quantification of gene expression. Our cDNA panels are perfect for analysis of poorly expressed genes that are not detectable by Northern analysis or RNase protection assay. The cDNA panels are also ideal for identification of gene expression in some rare tissues.

Formulation

Supplied as a liquid in 1X RT Buffer (50mM Tris-Cl, pH 8.3, 75mM KCl, 3mM MgCl2, 10mM DTT).

Grade

Molecular Biology Grade

Storage

-20°C

Antigen Modification

Human