

Unique Features of cDNA

Cbi 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. Four formats of cDNA products are available

There are four types of cDNA products to choose from: PCR ready first strand cDNA, RACE ready 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 Cbi'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 6 kb, any genes less than 6 kb 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 (Fig 5.1). 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

BioChain provides over 358 tissue cDNAs from different human adult and fetal normal tissues, diseased and tumor tissues, mouse, rat, monkey, and plant tissues. No other company on the market can provide such a variety of cDNAs.

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 (see Fig. 5.1). Therefore, 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.