

Mouse Universal Reference Total RNA

Control RNA for improved microarray standardization

- **Rely on the broadest possible gene representation with minimal lot-to-lot variation**
- **Higher overall gene expression with a control made from various whole tissue sources**
- **Use with any array or labeling method**

Comparisons of your microarray data just got easier with **Mouse Universal Reference Total RNA**. Our Reference Total RNA is made by pooling the total RNA extracts from a collection of different tissues, yielding a mixture with the broadest possible gene representation available. In addition, our Reference Total RNA is produced on an industrial scale, which minimizes variation between lots. Our Reference Total RNA provides you with consistent gene coverage and great flexibility—use it for data normalization with any array and any labeling method.

Easily compare microarray results

Our Reference Total RNA allows you to compare data sets from different microarray experiments. Simply hybridize a probe made with our Reference Total RNA to a microarray each time you perform an experiment, and then normalize

your data to the Reference Total RNA. Because we furnish you with enough Reference Total RNA for up to 80 microarray experiments, you can compare results over a series of experiments. Our Reference Total RNA is the best approach to building gene expression databases in which you compare expression profiles from different tissue or cell line models.

To provide you with the best overall gene representation with the least variation in gene expression, we made our Reference Total RNA using a combination of different tissue sources (Figure 1). RNA extracted from a range of different whole tissue sources is purified using our BD™ Premium RNA method. Then the RNA from each tissue is pooled, creating one master stock of high-quality, ultra-pure Reference RNA that has a more even gene distribution than any individual tissue tested. We have found that RNA from whole tissues shows higher overall expression with less variation than RNA from cell lines (1). The result is an RNA reference standard that consistently provides homogenous signal intensities across the majority of genes.

Product	Size	Cat. #
Mouse Universal Reference Total RNA	2 x 200 µg	64118-1
Human Universal Reference Total RNA	2 x 200 µg	64115-1



Reference

1. Control RNA for Microarray Experiments (April 2002) *Clontechiques* **XVII**(2):6.

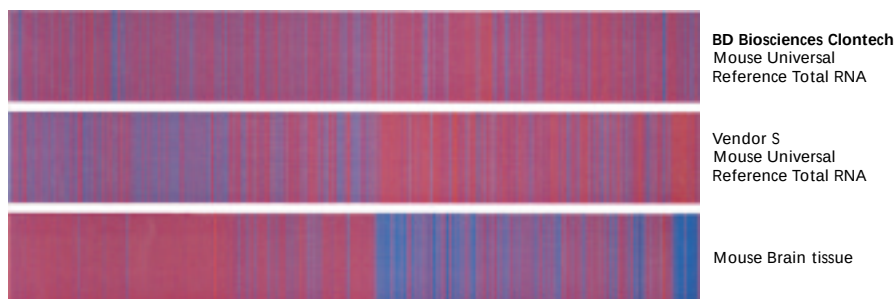


Figure 1. Mouse Universal Reference Total RNA demonstrates more than 90% gene coverage. We generated Cy-3 labeled probes using our Reference Total RNA, another vendor's reference total RNA, and RNA from mouse brain tissue. Probes were hybridized to BD Atlas™ Glass Mouse 3.8 I Microarrays (#7907-1). We analyzed the expression results using GeneSpring® Software (version 3.2.2) to cluster genes according to their expression patterns. A gene is considered expressed when its measured raw intensity is greater than or equal to 100. The red and blue colors indicate high and low expression, respectively. Varying shades of purple indicate the ratio of the intensity of any gene on each array to its median intensity across all arrays. As shown here, nearly all of the expressed genes from the mouse brain tissue were detected using our Reference Total RNA. Furthermore, among the genes detected with the Reference Total RNA, 85% had intensities greater than or equal to the intensity obtained with the hybridization of any single tissue used to prepare our Reference Total RNA (data not shown). Our results indicate that the Reference Total RNA has more than 90% gene coverage with even distribution and outperforms another vendor's RNA mixture.