

Universal Human miRNA Reference RNA

Catalog #750700

MATERIALS PROVIDED

Material Provided	Quantity	Concentration
Reference RNA	10 µg	1 µg/µl

STORAGE

Store the Universal Human miRNA Reference RNA at -80°C.

INTRODUCTION

Stratagene Universal Human miRNA Reference RNA is an ideal reference control for miRNA microarray or miRNA-targeted QRT-PCR experiments. The Universal Human miRNA Reference RNA may also be used as an optimization or standardization reagent for these or other applications aimed at human miRNA analysis.

miRNAs are small, highly conserved noncoding RNAs of ~22 nucleotides in length, which regulate the expression of genes involved in a variety of critical cellular processes including proliferation, development and differentiation, hematopoiesis, and apoptosis. Consistent with the role of miRNAs in gene regulation, there is considerable variation in the abundance and composition of individual miRNA species among different human tissues and cell types. An ideal reference RNA should represent the great diversity of miRNA species from human tissues, and should include both the ubiquitous and tissue-specific or disease-state specific miRNAs. The Stratagene Universal Human miRNA Reference RNA is composed of total RNA from nine human tissues or cell lines, which were specifically selected and formulated for optimal miRNA representation. Unlike miRNA reference materials composed of synthetic RNA, the Stratagene Universal Human miRNA Reference RNA is derived from biological tissues and cell lines and thus potentially includes representation of novel, uncharacterized miRNA species. In addition, this reference RNA includes mRNA, large intergenic non-coding RNA, and piwi-interacting RNA and thus may be useful in additional applications.

Tissue and Cell Line Derivations		
Placenta tissue	Adult heart tissue	Adult testis tissue
Adult liver tissue	Adult breast tissue	Fetal brain tissue
Adult brain tissue	Adult colon tissue	Testis cell line

The reference RNA is carefully screened for contaminating genomic DNA, the presence of which can complicate interpretation of microarray or QRT-PCR assay data. The reference RNA contains <0.5% genomic DNA, as measured by QPCR.

When selecting a reference standard to be used for validation of experimental results and for cross-experiment comparisons of miRNA levels, it is critical to select a highly-standardized source which will remain consistent over long-range experiments. The Stratagene Universal Human miRNA Reference RNA is produced in extremely large lots, which undergo stringent quality-control procedures, ensuring the long-term availability of consistent reference RNA material.

INSTRUCTIONS FOR USE

The Universal Human miRNA Reference RNA is provided at a concentration of 1 µg/µl in a solution of 0.1 mM EDTA. Avoid subjecting the reference RNA to multiple freeze-thaw cycles, which can alter the effective concentration of miRNAs in the solution. At first use, aliquot the reference RNA into single-use aliquots, according to your experimental design.

For typical reference control and assay optimization applications, the Universal Human miRNA Reference RNA should be included in miRNA analysis experiments using equivalent protocols for the reference RNA and your total RNA samples of interest. The reference RNA has been optimized for use with the following kits, which facilitate analysis of the miRNA component of total RNA. See the instruction manuals provided with each kit for RNA dilution information and complete protocols. When using the reference RNA in conjunction with other reagent systems, consult the reagent manufacturer's protocols for total RNA dilution and analysis instructions.

Application	Recommended Kit	Ordering Information
miRNA microarray analysis	Agilent miRNA Complete Labeling and Hyb Kit	Agilent Part # 5190-0456
QPCR analysis of miRNA targets	Stratagene High-Specificity miRNA QRT-PCR Detection Kit	Stratagene Catalog #600580

LIMITED PRODUCT WARRANTY

This warranty limits our liability to replacement of this product. No other warranties of any kind, express or implied, including without limitation, implied warranties of merchantability or fitness for a particular purpose, are provided by Agilent. Agilent shall have no liability for any direct, indirect, consequential, or incidental damages arising out of the use, the results of use, or the inability to use this product.