

Universal Rat Reference RNA

Catalog #740200



Storage Store the Universal Rat Reference RNA at -80°C . Store the RNase-free water at room temperature.

INTRODUCTION

Stratagene's Universal Rat Reference RNA is composed of total RNA from 14 rat cell lines. The reference RNA is designed to be used as a reference for microarray gene-profiling experiments. Since RNA species differ in abundance between cell lines, an ideal reference sample should represent these different RNAs. Equal quantities of DNase-treated total RNA from each cell line were pooled to make the Universal Rat Reference RNA.

MATERIALS PROVIDED

Material Provided	Quantity
Reference RNA	2 tubes x 200 μg each
RNase-free water	1.5 ml

Cell Line Derivations	
Blood, basophilic leukemia	Liver, hepatoma
Blood, T-lymphocyte, lymphoma	Lung, alveolar macrophage, normal
Blood, B-lymphoblast, hybridoma	Lung, alveolar type II, normal
Brain, glioma	Mammary gland, adenocarcinoma
Embryo, yolk sac carcinoma	Muscle, myoblast
Embryo, fibroblast, normal	Skin, normal
Kidney, normal	Testis, Leydig cell tumor

ADDITIONAL MATERIALS REQUIRED

RNase-free 70% Ethanol

PROTOCOL

Universal Rat Reference RNA is provided in a solution of 70% ethanol and 0.1 M sodium acetate. Prepare the Reference RNA for use as follows:

1. Centrifuge the tube at $12,000 \times g$ for 15 minutes at 4°C .
2. Carefully remove the supernatant.
3. Wash the pellet in 70% ethanol.
4. Centrifuge the tube at $12,000 \times g$ for 15 minutes at 4°C .
5. Carefully remove the supernatant and air-dry the pellet at room temperature for 30 minutes to remove retained ethanol.
6. Resuspend the pellet in RNase-free water to the desired concentration.

Proceed with the preparation of labeled cDNA and interrogate the arrays according to the manufacturer's instructions.

QUALITY CONTROL TESTING

The quality of the Universal Rat Reference RNA is assessed by observing distinct 28S and 18S ribosomal bands on a $1 \times$ MOPS agarose gel under denaturing conditions. The purity of the RNA is assessed by spectrophotometry ($A_{260}/A_{280} \geq 1.8$). The RNA is then shown to be free of contaminating RNases by incubation in a suitable buffer at 37°C followed by gel analysis against known RNase-free controls. The RNA is further tested functionally by synthesizing labeled cDNA, which is then hybridized to a microarray to examine gene representation and coverage.

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