

Nucleic acid preparation

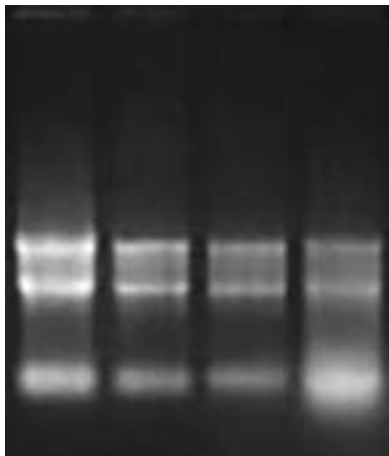
RNA preparation

Technical tip

RNA isolation challenges

The isolation and analysis of RNA, especially mRNA, is a vital part of research in molecular biology. Traditionally phenol:chloroform and guanidine isothiocyanate have been employed to purify RNA by extracting the contaminating species like cellular debris, proteins, and DNA from the preparation while preserving the integrity of the RNA from enzymatic degradation. While these may be the standard reagents of choice for RNA purification, there is a growing need to find faster and less hazardous methods.

The detection of hybridization signals in mRNA analysis is often a technical challenge because of two critical parameters : amount and stability. In the cytoplasm of a typical eukaryotic cell, the percentage of mature poly (A+) RNA is only 1-4% of the Total RNA. Because mRNA is found in low abundance and all RNA is extremely sensitive to degradation by RNases, there is a driving need for quality, efficient, and environmentally friendly purification products.



Total RNA isolated from Mouse tissues using GStruct™ Total RNA Isolation Kit T66290 :
Lane 1 : Mouse brain total RNA.
Lane 2 : Mouse heart total RNA.
Lane 3 : Mouse lung total RNA.
Lane 4 : Mouse spleen total RNA.

Kit Components : Cell lysis buffer, Total RNA purification buffer, Optimized protocol
Reagents Needed : H₂O-Saturated phenol, Chloroform, Isopropanol, 75% Ethanol (all in ACS grade)

Interchim offers great tools for faster, safer, and more convenient purification of both total and messenger RNA :

- ◆ GStruct™ Total RNA Isolation Kit
- ◆ Mag-Net™ mRNA isolation technology

RNA preparation – from Cells & Tissues

GStruct™ Total RNA Isolation Kit

Direct from sample to RT-PCR, and others applications

Sample Source/Size :

Tissue : 50-100 mg

- ◆ Cells grown in suspension : 5-10 x 10⁶ cells
- ◆ Cells grown in monolayer : 100 mm culture dish
- ◆ Bacteria : 1-5 ml bacterial culture

Preparation Time : Approximately 30 minutes

Features :

- ◆ Economical, fast, and simple
- ◆ High RNA yield
- ◆ Extract RNA from any cell or tissue source
- ◆ Ultra purity (A₂₆₀ / A₂₈₀ ratio of 1.8 - 1.9)
- ◆ No DNA or protein contamination

Total RNA Isolation Kit allows the isolation of intact high quality, full-length RNA from virtually any tissue or cell. The method is based on a guanidinium isothiocyanate extraction. The kit procedure includes a further extraction step to eliminate DNA, polysaccharides, and other contaminants. Extracted RNA can be used directly for Northern blot analysis, RNase protection assays, RT-PCR, Poly (A)+ selection, and *in vitro* translation.

Description	Cat.#	Qty
GStruct™ Total RNA Isolation Kit	T66291	50 tests
GStruct™ Total RNA Isolation Kit	T66290	100 tests

Mag-Net™ Kits

Interchim offers two poly (A+) RNA isolation kits that utilize a magnetic matrix and oligo dT technology. Mag-Net™ mRNA Isolation Kits are designed for faster, safer, and more convenient purification of messenger RNA. The kits are optimized for rapid isolation of high purity (A₂₆₀ / A₂₈₀ > 1.8) intact mRNA from either total RNA or tissue samples, making the mRNA recovered ideal for use in primer extensions, cDNA generation, Northern analysis, RT-PCR, or *in vitro* translation.

RNA or tissue samples, making the mRNA recovered ideal for use in primer extensions, cDNA generation, Northern analysis, RT-PCR, or *in vitro* translation.

Description	Cat.#	Qty
Mag-Net™, mRNA Isolation from Total RNA Kit	R49560	25 tests
Mag-Net™, mRNA Isolation from Tissue Kit	R49550	25 tests
Mag-Net™, Single Tube Stand	R49570	1 unit