

RNA Isolation and cDNA Synthesis

Complete Protocol from Cells to cDNA

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Overview

This combined protocol guides you through the complete process of isolating RNA from cultured cells using TRIzol Reagent and converting it to cDNA using the High-Capacity cDNA Reverse Transcription Kit. The complete procedure takes approximately 4 hours (1 hour for RNA isolation + 3 hours for cDNA synthesis).

SAFETY

TRIzol contains phenol and guanidine isothiocyanate. Always wear gloves, lab coat, and safety glasses. Work in a fume hood when possible. Consult Safety Data Sheet before use.

Sample Requirements

Sample Type	Amount per 1 mL TRIzol
Cells in monolayer	1×10^5 to 1×10^7 cells (3.5 cm dish)
Cells in suspension	$5\text{-}10 \times 10^6$ cells

Protocol based on TRIzol Reagent User Guide (Thermo Fisher Scientific) and Applied Biosystems High-Capacity cDNA Reverse Transcription Kit

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