

Aug 20, 2019

RNA Isolation from Plant Tissue Protocol 11: Tri Reagent Method

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 In 1 collection

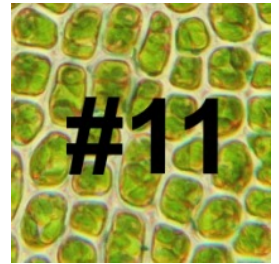
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**Manuscript citation:**

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Protocol status: Working

These protocols were used for RNA extraction from plant tissues in order to support the One Thousand Plants initiative's work to produce RNA-Seq transcriptomes from a diverse collection of plant samples.

Created: June 29, 2019

Last Modified: August 22, 2019

Protocol Integer ID: 25317

Keywords: RNA, RNA isolation, RNA extraction, plant tissue, rna isolation from plant tissue protocol, rna isolation from plant tissue collection, protocol for rna isolation, rna isolation, total rna from plant tissue, rnase activity during rna isolation, rnase activity, plant tissue protocol, rna, rnase, total rna, trizol ls reagent protocol, analogous to the trizol ls reagent protocol, using tri reagent, plant tissue collection, tri reagent, guanidine thiocyanate, tri reagent method, ml of tri reagent

Abstract

Implemented by: Michael Melkonian and Barbara Surek

The protocol for RNA isolation using **TRI Reagent** (Molecular Research Center, Cincinnati OH) is analogous to the TRIzol LS Reagent protocol except that 1 ml of TRI Reagent is added to each 250 µl of homogenized material (= approx. 50–100 mg packed cell volume) (step 3, **Protocol 10**).

For background, TRI Reagent combines phenol and guanidine thiocyanate in a monophasic solution to inhibit RNase activity during RNA isolation.

This protocol is part of a collection of eighteen protocols used to isolate total RNA from plant tissue. (RNA Isolation from Plant Tissue Collection: <https://www.protocols.io/view/rna-isolation-from-plant-tissue-439gyr6>)

Attachments



[journal.pone.0050226...](#)

297KB

Guidelines

In cases of high RNA concentration (> 1000 ng/μl), but low 260/230 ratio (less than 1), RNA can be extracted and precipitated again.

For this, steps 8–13 of the TRIzol LS Reagent Method are repeated.

Protocol



NAME

RNA Isolation from Plant Tissue Protocol 10: TRIzol LS Reagent Method

CREATED BY

Eric Carpenter

Preview

The RNA phase is mixed with  500 μL 8 M LiCl by vortexing and incubating for  01:00:00 at  4 °C . Subsequently, steps 16–23 of the TRIzol LS Reagent protocol are performed.

Frequently, repetition of extraction decreases previous RNA concentrations up to tenfold, but increases the 260/230 ratio remarkably attaining values of 1.8 or more.

Neither using isopropanol for the second precipitation process nor replacing isopropanol by LiCl as a main precipitator is as efficient as the method described above.

Materials

MATERIALS

 TRI Reagent® Molecular Research Center, Inc.

Safety warnings

 Please see SDS (Safety Data Sheet) for hazards and safety warnings.

