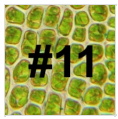


Aug 20, 2019

RNA Isolation from Plant Tissue Protocol 11: Tri Reagent Method

1 Works for me dx.doi.org/10.17504/protocols.io.4ydgxs6

Scott C. Edmunds
GigaScience/BGI Hong Kong/Bauhinia Genome

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.

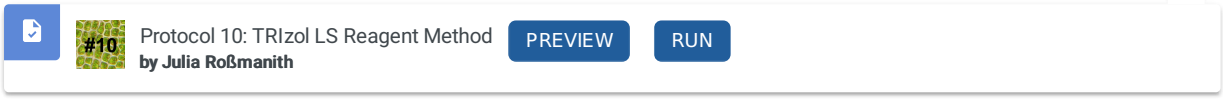
This protocol is part of a collection of eighteen protocols used to isolate total RNA from plant tissue. (RNA Isolation from Plant Tissue Collection: https://www.protocols.io/view/rna-isolation-from-plant-tissue-439gyr6)

journal.pone.0050226.s011.PDF

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.



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

NAME	CATALOG #	VENDOR
TRI Reagent®	View	Molecular Research Center, Inc.

SAFETY WARNINGS

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

This is an open access protocol distributed under the terms of the **Creative Commons Attribution License** (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited