Ribospin™ Seed/Fruit is a specialized kit that enables high-quality total RNA extraction from various seed samples

Experimental Conditions

Materials Required

- Ribospin™ Seed/Fruit (317-150, 50 preps)
- Grinder : blender, bead-beater or seed grinding equipment with equivalent performance
- Liquid nitrogen (LN_2)
- Absolute ethanol (C_2H_6O, CAS No. : 64-17-5, ≥99.0%)
- β-mercaptoethanol (C_2H_6OS CAS No. : 60-24-2, ≥99.0%)
- 1.5 ml or 2.0 ml microcentrifuge tube
- Vortex mixer
- Centrifuge (Max. speed 14,000 rpm or ≥10,000 x g)
- Pipette & sterile pipette tips
- Suitable protector (ex. lab coat, disposable gloves, goggles, etc.)
- Ice (prevents thermal damage of DNase I)

Sample Information

- Sample type : Plant seeds


Lettuce


Kidney bean


Peanut


Sweet pea


Spinach


Apricot


Beet


Pepper


Tomato


Radish


Water melon

- Sampling : seeds that can germinate are used as samples
- How to store : store at room temperature in a completely sealed condition
- Homogenizing : blender

  Extraction conditions
  - Sample amount : 100 mg
  - Elution volume : 50 µl

Starting sample information

Protocol selecting guide for starting sample

Ribospin™ Seed/Fruit provides two protocols according to the characteristics of the sample. For each seed sample, the corresponding protocol must be applied according to the characteristics, please check Table 1. for some seed samples. For more details and methods, please refer to the handbook of Ribospin™ Seed/Fruit.

The list of sample applied with **Protocol I**	The list of sample applied with **Protocol II**
Capsella bursapastoris (Shepherd's purse)	*Phaseolus vulgaris* (Kidney bean)
Ulmus davidiana var. japonica (Elm)	*Phaseolus radiatus* (Mung beans)
Daucus carota (Carrot)	*Triticum aestivum* (Wheat)
Raphanus sativus var. sativus (Radish)	*Zea mays* (Corn)
Zinnia violacea (Garden zinnia)	*Setaria italica* (Millet)
Prunus armeniaca (Apricot tree)	etc.
Apium graveolens (Celery)	
Pastinaca sativa (Parsley)	
Vitis vinifera (Grape tree)	
Cucurbita spp. (Pumpkin)	
etc.	

Table 1. Recommended protocol guide according to seed samples

Protocol I : for general seed samples
Protocol II : for starch-enriched seed samples

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Result

#	Sample	Conc. (ng/μl)	Yield (μg)	$A_{260/280}$	$A_{260/230}$
1	Lettuce	827.70	**41.39**	2.20	2.37
2		820.00	**41.00**	2.14	2.13
3	Kidney bean	954.30	**47.82**	2.21	2.40
4		761.70	**38.09**	2.19	2.34
5	Peanut	843.10	**42.16**	2.20	2.41
6		844.50	**42.23**	2.21	2.41
7	Sweet pea	1069.00	**53.45**	2.20	2.27
8		1345.40	**67.27**	2.21	2.36
9	Spinach	635.60	**31.78**	2.21	2.43
10		763.30	**36.82**	2.19	2.34
11	Apricot	466.60	**23.33**	2.16	2.13
12		445.90	**22.30**	2.17	2.18
13	Beet	440.90	**22.05**	2.21	2.32
14		344.10	**17.21**	2.19	2.32
15	Pepper	270.60	**13.50**	2.21	2.34
16		285.70	**14.29**	2.20	2.30
17	Tomato	377.80	**18.89**	2.21	2.34
18		378.80	**18.94**	2.20	2.32
19	Radish	1014.11	**50.71**	2.20	2.38
20		1049.10	**52.46**	2.23	2.38
21	Water melon	258.10	**12.91**	2.14	2.22
22		361.70	**18.09**	2.17	2.32

Table 2. The concentrations, yield and purity of total RNA extracted from 100 mg of various seed samples.

※ Absorbance measurement instrument : NanoDrop™ 2000/2000c (ND-2000, Supplier : T)

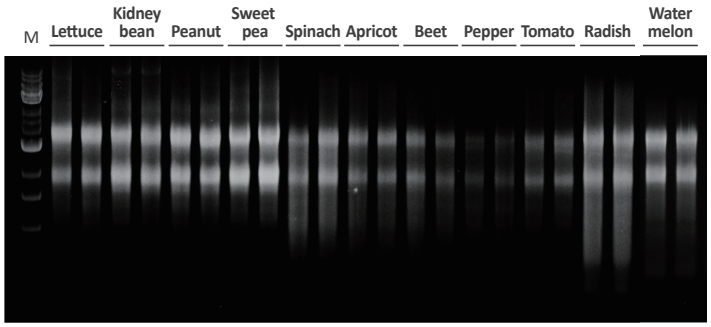

Figure 1. The result of electrophoresis of total RNA from 100 mg of various seed samples.

Lane M : GENESTA™ 1 kb DNA Ladder with 5X loading dye (GA-100, GeneAll®, 1 μl loading)
※ Electrophoresis conditions : 1.0% agarose gel, 150 V, 15 min, 2 μl (1/2 dilution)