

# Plant RNA Extraction Series

## easy-spin™ IIP Plant RNA Extraction Kit (Mini-prep)

### ➤ Phenol Extraction of RNA

**○ Phenol & Spin type product for extracting total RNA from various plant samples in mini scale**

- Possible to extract total RNA easily from various plant samples (leave, seed, root, stem, etc.)
- Including additional pre-lysis buffer to minimize contamination in plant sample
- Efficient RNA mini-prep system



Product Name	Cat.No.	Size
easy-spin™ IIP Plant RNA Extraction Kit (Mini-prep)	17310	50Col

## IQeasy™ plus Plant RNA Extraction Kit

### ➤ Non-phenol Extraction of RNA

**○ Spin type product for extracting total RNA from plant samples / Applying 2 columns system**

- High yield and purity of RNA extraction
- Possible to minimize gDNA contamination
- Possible to remove gDNA quickly and extract RNA within 20 minutes
- 99% removal of gDNA without DNase



Product Name	Cat.No.	Size
IQeasy™ plus Plant RNA Extraction Kit	17491	50Col

## Double-RNA Viral dsRNA Extraction Mini Kit (for Plant Tissue)

### ➤ Viral dsRNA Extraction

**○ Phenol & Spin type product for extracting viral RNA**

- Possible to extract plant viral RNA selectively within 30 minutes
- Possible to purify dsRNA selectively
- No CsCl gradients, no LiCl



Product Name	Cat.No.	Size
Double-RNA Viral dsRNA Extraction Mini Kit (for Plant Tissue)	17412	50Col

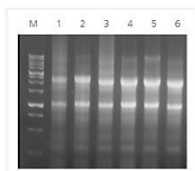
### Common Characteristics of plant RNA extraction series

- ✓ No alcohol precipitation – Minimizing genomic DNA contamination !!
- ✓ Using CAPS (Column) method – Minimizing concerns for contamination !!
- ✓ High-quality RNA for any downstream applications !!

# Technical Data

## easy-spin™ IIP Plant RNA Extraction Kit (Mini-prep)

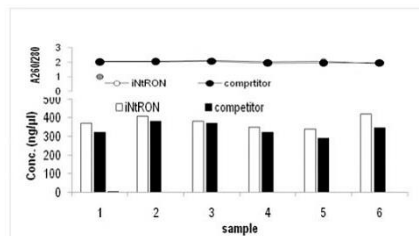
- Comparison data for efficiency based on plant type



Lane M, 1kb ladder; lane 1, Pumpkin seed; lane 2, Black bean; lane 3, Watermelon seed; lane 4, Potato leaf; lane 5, Pachira leaf, lane 6, Herb leaf

No.	Sample	Conc.(ng/ul)	Yield (ug)	A <sub>260/280</sub>
1	Pumpkin seed	320	16	2.01
2	Black bean	354	17.7	1.99
3	Watermelon seed	402	20	1.94
4	Potato leaf	405	20.1	1.96
5	Pachira leaf	420	21	2.01
6	Herb leaf	442	22.1	2.06

- Comparison data for yield and purity with competitors



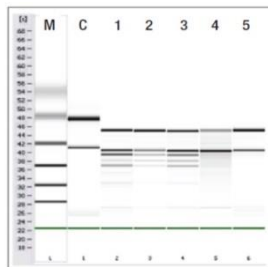
After obtaining RNA separation/purification results from plant tissue using easy-spin™ IIP Plant RNA Extraction Kit (Mini-prep), better results came out compare to competitors.

## IQeasy™ plus Plant RNA Extraction Kit

- Recovery rate of total RNA

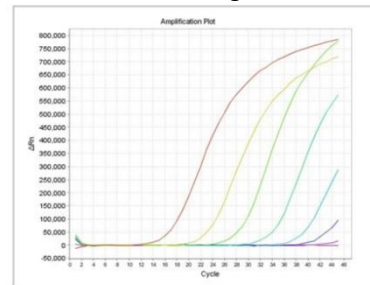
	RNA Conc (ng/ul)	A260/280	A260/290	Yield (ug)
Pachira leaf	80	2.01	2.12	4.18
Potato leaf	200	2.13	2.09	18.54
Green pea	600	2.07	2.05	33.29
Black bean	840	1.91	1.91	42.18
Pumpkin seed	100	1.99	2.04	8.16
Watermelon seed	110	2.13	2.07	5.4
Cucumber seed	50	2.17	2.05	2.56
Melon seed	50	1.92	2.03	2.72
Pepper seed	80	2.57	2.17	2.88
Radish seed	350	2.07	2.03	17.56
Spinach seed	340	1.95	2.08	17.16
Tomato seed	110	2.04	2.14	5.7
Rice seed	45	2.08	2.16	2.48
grass seed	40	1.89	2.09	2.2

- Analysis for extracted RNA



Using IQeasy™RNA Plant Mini Kit, phenol-based RNA extraction kit and other RNA extraction kits, total RNA was extracted. After analyzing each extracted RNA quality with Agilent® 2100 bioanalyzer, extracted RNA using IQeasy™RNA Plant Mini Kit was verified that it was high yield and purified RNA for Microarray analysis.

- Quantification through Real-Time PCR

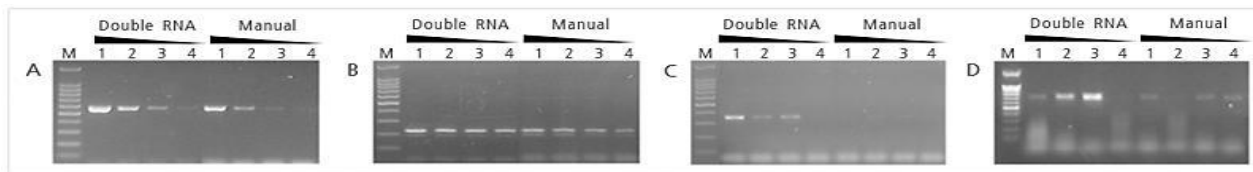


After performing 1/10 serial dilution of extracted total RNA using IQeasy™ Plus Plant RNA Extraction Mini Kit, ONE-STEP RT-PCR PreMix Kit (iNtRON, Cat.No. 25101) was used to see efficiency of extraction by testing quantification for GAPDH Gene. Real-time RT-PCR was performed by high purified RNA.

Purity and concentration of total RNA extracted from various plant tissue using IQeasy™ Plus Plant RNA Extraction Mini Kit was identified. High purity of total RNA can be extracted from species that are difficult to extract due to secondary metabolites. High purity of total RNA can also be purified from seed samples containing high metabolites.

## Double-RNA Viral dsRNA Extraction Mini Kit (for Plant Tissue)

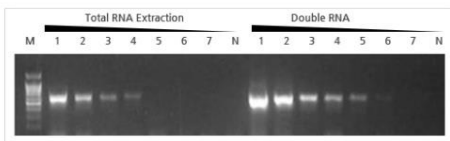
- Sensitivity data for plant virus detection



RT-PCR was performed using extracted double-RNA by Double-RNA Viral dsRNA Extraction Mini Kit and Manual Method.

iNtRON, purified RNA with Double-RNA Viral dsRNA Extraction Mini Kit; Manual; purified RNA with manual method A, potato X virus(PVX); B, potato leaf roll virus(PLRV); C, potato Y virus(PVY); D, potato S virus(PVS) Lane M, 100bp ladder; lane 1, 20 µl of RNA used as template of RT-PCR; lane 2, 10 µl of RNA used as template of RT-PCR; lane 3, 5 µl of RNA used as template of RT-PCR; lane 4, 2.5 µl of RNA used as template of RT-PCR

- Comparison data between double RNA and total RNA (Potato X virus)



After serial dilution was performed with extracted RNA using the Double-RNA Viral dsRNA Extraction Mini Kit (for Plant Tissue) and Manual Method, PVX was confirmed with Maxime RT-PCR PreMix Kit (iNtRON, Cat. No. 25131) .