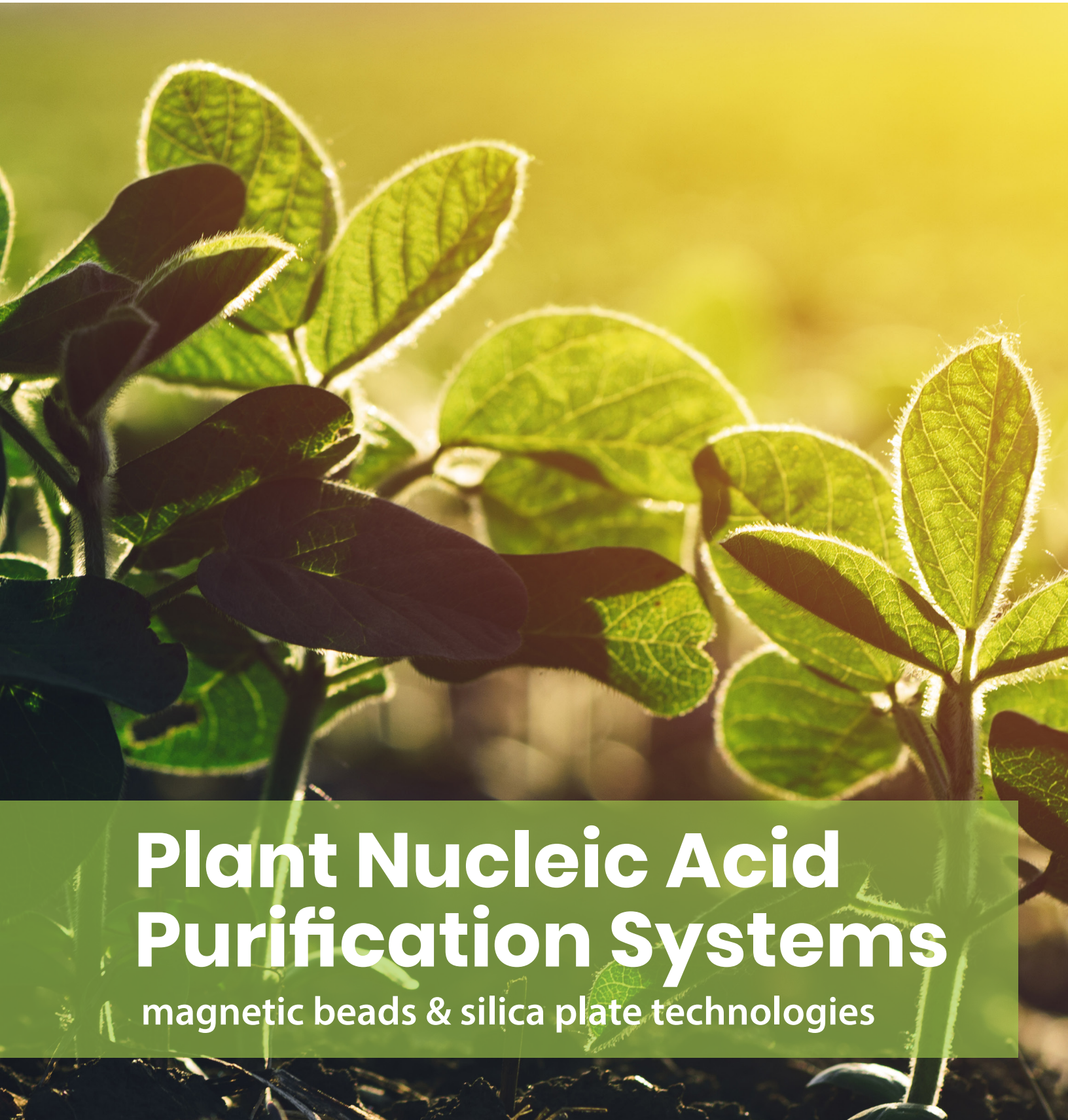
omega BIO-TEK

innovations in nucleic acid isolation



Plant Nucleic Acid Purification Systems

magnetic beads & silica plate technologies

Mag-BIND® Plant DNA DS 96 Kit

High throughput DNA isolation of plant seed & leaf tissues using magnetic beads

96 Samples

96 samples processed in 1 hour or less

Robust Lysis

Highly diverse plant samples processed with ease

Quality

Purified DNA suitable for a variety of downstream applications

Automatable

Adaptable on most open-ended liquid handlers

The Mag-BIND® Plant DNA DS 96 Kit allows for rapid and reliable isolation of high quality genomic DNA from plants and other tissues that are particularly difficult to lyse or very high in polysaccharide content. The lysis and binding buffers are specifically designed to minimize co-purification of polysaccharides and polyphenols.

Up to 96 samples of 50 mg wet tissue (or 15 mg dry tissue) can be processed in parallel in less than 1 hour. The system combines CTAB-based lysis, which eliminates the need for organic solvents, with the convenience of Mag-BIND® particles to eliminate polysaccharides, phenolic compounds, and enzymatic inhibitors from plant tissue lysates.

This kit is designed for manual or fully automated high throughput preparation of genomic, chloroplast and mitochondrial DNA. Purified DNA is suitable for PCR, restriction enzyme digestion, next-generation sequencing, and hybridization applications.

DNA Yield Comparison from Different Plant Types

Type	Company Q (ng/ mg)	Omega Bio-tek (ng/mg)
Tobacco	12.3	19.4
Peanuts	6.3	52.9
Sunflowers	41.8	89.1
Oranges	4.6	31.2
Switchgrass	21.9	7.9
Peppers	6.9	111.0
Sugarcane	10.5	93.1
Oats	18.4	270.0
Wheat	0.5	152.3
Barley	9.6	198.1
Canola	3.4	59.0
Tomatoes	2.6	120.2
Grapes	1.9	212.4
Alfalfa	17.9	85.2
Corn	4.0	29.8
Sugar beets	20.2	34.0
Soybeans	26.8	25.4
Cotton	30.5	63.5
Potatoes	30.0	206.5
Average	**14.8**	**94.7**

50 mg leaf sample was extracted using Omega Bio-tek's Mag-BIND® Plant DNA DS Kit (M1130) and Company Q's recommended protocols. DNA concentration was determined via fluorescence-based nucleic acid quantification. Total yield was divided by total tissue amount to show ng of DNA per mg of leaf tissue.

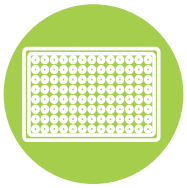
Product Description	Preps	Catalog No.
Mag-BIND® Plant DNA DS 96 Kit	1 x 96	M1130-00
	4 x 96	M1130-01

E.Z.N.A® & E-Z 96® Plant DNA DS Kits

High throughput DNA isolation of plant leaf & seed tissues using silica spin columns or 96-well plates

The E.Z.N.A.® and E-Z 96® Plant DNA DS Kit are designed for the efficient recovery of genomic DNA up to 30 kb in size from fresh, frozen, or dried plant tissue samples rich in polysaccharides, polyphenols, or samples that have a lower DNA content. Up to 50 mg wet tissue can be processed in less than 1 hour. The system combines the reversible nucleic acid-binding properties of the HiBind® matrix with the speed and versatility of spin column technology to eliminate polysaccharides, phenolic compounds and enzyme inhibitors from plant tissue lysates. Purified DNA is suitable for PCR, restriction digestion and hybridization applications.

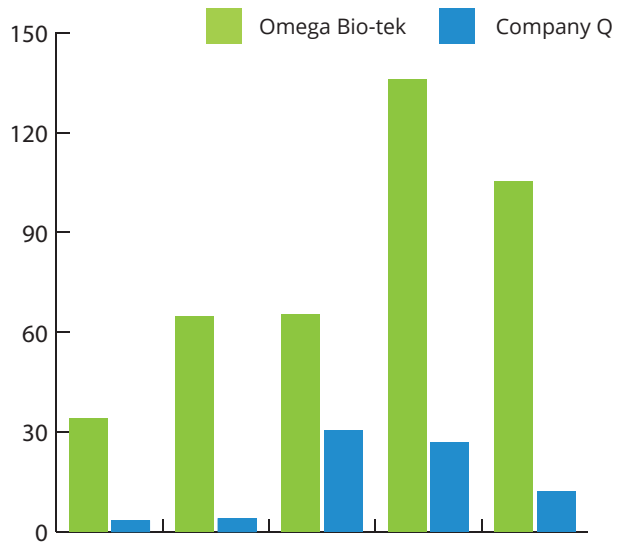
This procedure relies on the well-established properties of the cationic detergent cetyltrimethyl ammonium bromide (CTAB) in conjunction with the unique binding system to increase yields and provide high quality DNA. The system eliminates the need for chloroform extractions traditionally associated with CTAB-based lysis methods. Samples are homogenized and lysed in a high salt buffer containing CTAB and binding conditions are adjusted, and DNA is purified using HiBind® DNA mini columns. Salts, proteins and other contaminants are removed to yield high quality genomic DNA suitable for downstream applications such as endonuclease digestion, thermal cycle amplification and hybridization applications.



Homogenizer Plateware

Homogenizer columns or plate are included to allow for faster processing*

Comparison of DNA Yield from Multiple Crops



40-50 mg of respective fresh leaf tissue was extracted in triplicate according to manufacturer's recommended protocols and eluted in 100 µL. DNA analyzed with fluorescent DNA-based quantification method. Total yield was determined by total tissue amount to show ng of DNA per mg of leaf tissue.

Quality

Purified DNA suitable for a variety of downstream applications

Safe

No organic extractions

Column-based

Product Description	Preps	Catalog No.
E.Z.N.A.® Plant DNA DS Kit	5	D2411-00
	50	D2411-01

96-well plate

Product Description	Preps	Catalog No.
E-Z 96® Plant DNA DS Kit	1 x 96	D1411-00
	4 x 96	D1411-01

E.Z.N.A.® & E-Z 96® Plant RNA Kits

Isolates total RNA from a variety of plant samples

Our E.Z.N.A.® and E-Z 96® Plant RNA Kits provide a convenient and rapid method for the isolation of total RNA from a variety of plant samples. These kits provide a homogenizer column or plate for homogenization and filtration of viscous plant cell lysate by centrifugation in combination with HiBind® RNA columns for RNA purification. All of the contaminants including polysaccharides and phenolic compounds are effectively removed. Purified RNA can be used for most downstream applications such as RT-PCR, qPCR, Northern blot analysis, differential display, microarray analysis and poly A+ RNA selection.

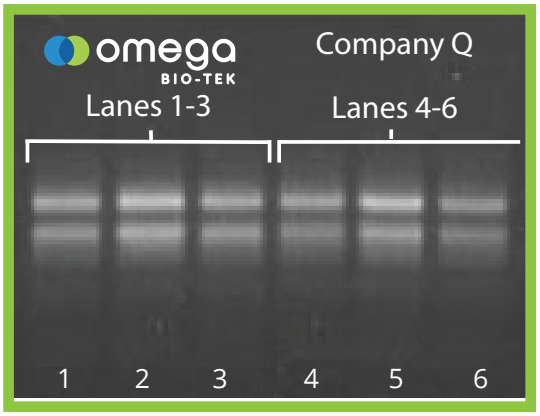
Samples Validated on E.Z.N.A.® & E-Z 96® Plant RNA Kits

Arabidopsis thaliana	*Hordeum vulgare*
Humulus lupulus	*Lycopersicon esculentum*
Beta vulgaris	*Malus sp.*
Fragraria virginiana	*Solnm tuberosum*
Clarkia spp.	*Spinacia oleracea*
Daucus carota	*Surfinia sp.*
Ornithogalum thyrsoides	*Triticum asestivum*
Dendranthema sp.	*Vetis sp.*
Euglena graciis	*Zea mays*
Oryza sativa	*Nicotiana tabacum*

Omega Bio-tek's Yields vs. Company Q's Yields

#	Company	Yield (µg)	$A_{260/280}$
1	Omega Bio-tek	16.45	2.02
2		20.63	2.08
3		19.11	1.96
4	Company Q	17.43	2.02
5		18.05	1.95
6		16.71	2.05

Arabidopsis thaliana RNA isolation with E.Z.N.A.® Plant RNA Kit vs. Company Q.



Total RNA from 100 mg of fresh *Arabidopsis thaliana* was isolated with Omega Bio-tek's E.Z.N.A.® Plant RNA Kit and a comparable kit from Company Q according to manufacturer's recommended protocols. The isolations were performed in triplicate. The RNA yield was determined from optical density measurements with Thermo Scientific's NanoDrop® 2000c. Yields shown above.

Column-based

Product Description	Preps	Catalog No.
E.Z.N.A.® Plant RNA Kit	5	R6827-00
	50	R6827-01
	200	R6827-02

96-well plate

Product Description	Preps	Catalog No.
E-Z 96® Plant RNA Kit	2 x 96	R1027-00
	8 x 96	R1027-01

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