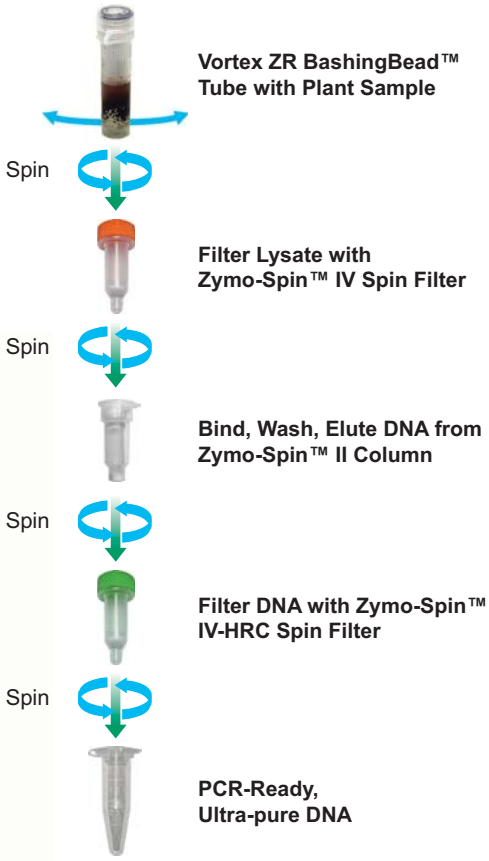
ZR Plant/Seed DNA Kit™

Simple, Rapid Isolation of PCR-quality DNA from Plants and Seeds!

- **Rapid method for the isolation of inhibitor-free, PCR-quality DNA from a variety of plant and seed samples in as little as 15 minutes.**
- **State-of-the-art, ultra-high density BashingBeads™ are fracture resistant and chemically inert.**
- **Can be used with <u>any</u> bead mill, pulverizer, or vortex that can accommodate standard 2.0 ml tubes.**
- **Omits the use of organic denaturants as well as proteinases.**

The **ZR Plant/Seed DNA Kit™** is designed for the simple, rapid isolation of inhibitor-free, PCR-quality DNA from a variety of plant sample sources including leaves, stems, buds, flowers, fruit, seeds, etc. The procedure is easy and can be completed in as little as 15 minutes: plant samples are added directly to a **ZR BashingBead™ Lysis Tube** and rapidly and efficiently lysed without the use of organic denaturants or proteinases. Polysaccharides and polyphenols/tannins are removed from the DNA using our *Fast-Spin* column and **Zymo-Spin™ IV-HRC Column** technologies, respectively. The eluted DNA is ideal for downstream molecular-based applications including PCR, arrays, etc. A schematic of the **ZR Plant/Seed DNA Kit™** procedure is shown to the right.



Comparative Overview (Single Column Format)

	ZR Plant/ Seed DNA Kit™	Competitor Q	Competitor MN
Processing Time	15 min.	> 1 hr.	> 1 hr.
Protocol	Simple (8 Step)	Extensive	Extensive
DNA Yield	High	Low	Fair
DNA Integrity	High	Fair	Fair
Fidelity of PCR	High	Low	Fair
Use of Proteinases	No	Optional	No

ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

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ZR Plant/Seed DNA Kit™

ZR Plant/Seed DNA Kit™ Protocol

1. Add up to 150 mg sample to a **ZR BashingBead™ Lysis Tube** and vortex at maximum speed for 10 minutes.
2. Centrifuge the **ZR BashingBead™ Lysis Tube** at 10,000 x *g* for 1 minute.
3. Transfer up to 400 µl supernatant to a **Zymo-Spin™ IV Spin Filter** (orange top) in a **Collection Tube** and centrifuge at 7,000 rpm for 1 minute.
4. Add 1,200 µl of **Plant/Seed DNA Binding Buffer** to the filtrate in the **Collection Tube** from Step 3.
5. Transfer 800 µl of the mixture from Step 4 to a **Zymo-Spin™ II Column** in a **Collection Tube** and centrifuge at 10,000 x *g* for 1 minute. Discard the flow through from the **Collection Tube** and repeat.
6. Add 500 µl **Plant/Seed DNA Wash Buffer** to the **Zymo -Spin™ II Column** in a new **Collection Tube** and centrifuge at 10,000 x *g* for 1 minute. Discard the flow through from the **Collection Tube** and repeat wash.
7. Transfer the column to a clean 1.5 ml microcentrifuge tube and add 50-100 µl **DNA Elution Buffer** directly to the column matrix. Centrifuge at 10,000 x *g* for 30 seconds to elute the DNA.
8. Filter the eluted DNA using a **Zymo-Spin™ IV-HRC Spin Filter** (green top) into a 1.5 ml microcentrifuge tube and centrifuge at 10,000 x *g* for 30 seconds.

The Disruptor Genie® w/ 2.0 ml Tube Holder from Scientific Industries, Inc. Cat. No. S6001-2 from Zymo Research Corp.

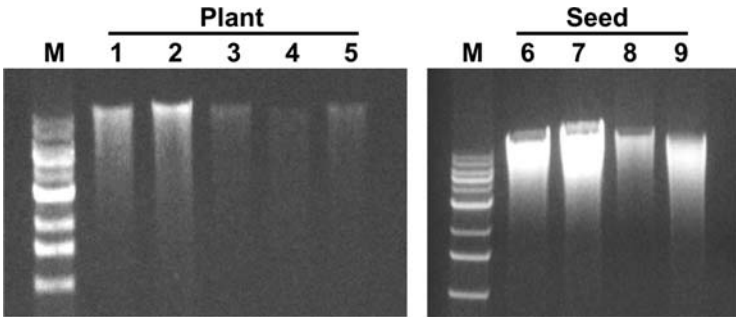

Figure 1. Comparison of DNA yields from various plant and seed samples using the **ZR Plant/Seed DNA Kit™**. Equivalent amounts of plant materials were processed with equal volumes of eluted DNA analyzed in a 0.8% (w/v) agarose/ethidium bromide gel. **M** is a 1 kb DNA size marker (Zymo Research Corp.). **1** *Arabidopsis thaliana* **2** juniper **3** milkweed leaf **4** milkweed leaflet **5** milkweed preflowering bud **6,7** corn kernel **8,9** sunflower seed

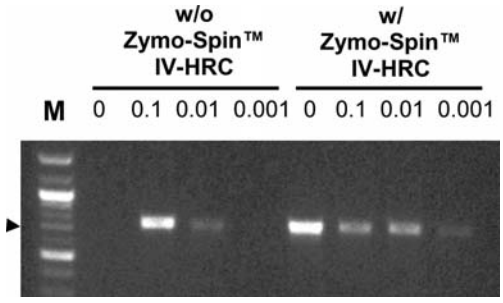

Figure 2. PCR of diluted DNA (0 to 0.001) isolated with the **ZR Plant/Seed DNA Kit™** from *Arabidopsis thaliana* leaf samples demonstrates the effectiveness of the **Zymo-Spin™ IV-HRC Column** at removing PCR inhibitors from the DNA. The arrow shows the relative migration of a ~700 bp amplicon from Chromosome 1 in a 0.8% (w/v) agarose/ethidium bromide gel. **M** is a 100 bp DNA size marker (Zymo Research Corp.)

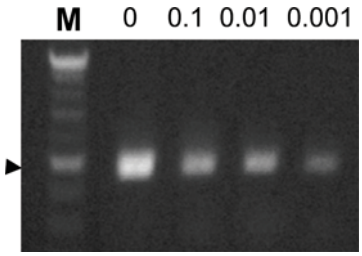

Figure 3. PCR of diluted DNA (0 to 0.001) isolated with the **ZR Plant/Seed DNA Kit™** from corn kernels. The arrow shows the relative migration of a ~450 bp amplicon from mitochondrial DNA in a 0.8% (w/v) agarose/ethidium bromide gel. **M** is a 100 bp DNA size marker (Zymo Research Corp.)

Ordering Information

Product Description	Catalog No.	Quantity
ZR Plant/Seed DNA Kit™	D6020	50 Preps.
Disruptor Genie® Scientific Industries Inc w/ 2.0 ml tube holder	S6001-2	1 Unit
TurboMix Attachment, 2.0 ml (Permanently mounts to most existing Vortex-Genie 2 and Vortex-Genie 2T mixers converting them to a Disruptor Genie™).	S6004-2	1 Unit