

Genomic DNA from Castor Bean (*Ricinus communis*) Seedlings

Catalog No. NR-44091

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Contributor and Manufacturer:

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Product Description:

Genomic DNA was extracted from a preparation of castor bean (*Ricinus communis*), cultivar Zanzibarensis, seedling leaves using the Qiagen[®] DNeasy[®] Plant Mini Kit.

The castor bean plant is best known for the toxin ricin, a glycoprotein that can be isolated from the seeds.¹ Ricin toxin is a member of the ribosome inactivating protein (RIP) family of toxins, which specifically and irreversibly inhibit protein synthesis in eukaryotic cells by enzymatically altering the 28S rRNA of the large 60S ribosomal subunit. Most RIPs are produced by plants and are thought to represent a defense mechanism against viral or parasitic attackers. Examples of plant-derived RIPs include ricin, abrin and saporins.²

NR-44091 has been qualified for PCR applications by amplification of the A chain and B chain gene segments of ricin toxin.

Material Provided:

Each vial contains approximately 2 µg of genomic DNA, dried from a 50 µL solution containing 10 mM Tris-HCl and 0.5 mM EDTA, pH ~ 9. The vial should be centrifuged prior to opening.

Note: NR-44091 should be rehydrated with molecular grade water.

Packaging/Storage:

NR-44091 was packaged aseptically in screw-capped plastic cryovials. The product is shipped at room temperature and should be stored at 4°C or colder immediately upon arrival.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Genomic DNA from Castor Bean (*Ricinis communis*) Seedlings, NR-44091."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services,

Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm.

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References:

1. Doan, L. G. "Ricin: Mechanism of Toxicity, Clinical Manifestations, and Vaccine Development. A Review." J. Toxicol. Clin. Toxicol. 42 (2004): 201-208. PubMed: 15214627.
2. Walsh, M. J., J. E. Dodd and G. M. Hautbergue. "Ribosome-Inactivating Proteins: Potent Poisons and Molecular Tools." Virulence 4 (2013): 774-784. PubMed: 24071927.

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