sbeadex Lightning Plant (HTP) DNA Kit

Simple and high-speed DNA purification from plants and seeds

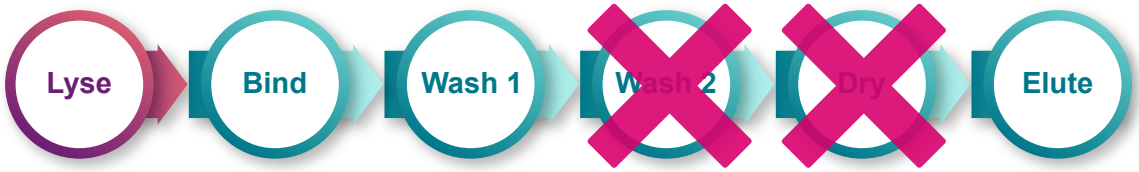
The new sbeadex™ Lightning Plant DNA Kit streamlines the purification of high-quality DNA from plant cells using superparamagnetic microparticles and a novel binding mechanism that enables simultaneous DNA binding and washing. With a simplified 3-step protocol (excluding lysis), DNA purification takes just 5 minutes, eliminating hazardous ethanol or chaotropic salt washes.

The new kit is available in two variants:

1. a standard format for larger sample inputs and manual or 96-well processing (sbeadex Lightning Plant DNA Kit)
2. a high-throughput (HTP) version optimised for 384-well workflows (sbeadex Lightning Plant HTP DNA Kit).

The kit helps breeders overcome bottlenecks in sample processing by reducing reagent costs and enabling scalable automation. The result is pure, inhibitor-free DNA ready for downstream applications like KASP or targeted GBS methods including Amp-Seq One and Flex-Seq.

Traditional DNA purification



New sbeadex Lightning Plant (HTP) DNA Kit

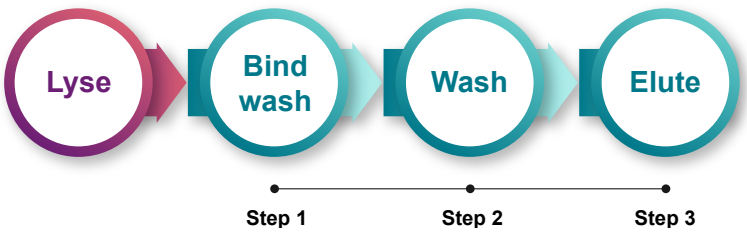


Figure 1. The shortened sbeadex Lightning workflow.
The upper workflow represents a typical magnetic bead-based DNA purification protocol.
The lower workflow illustrates the innovative sbeadex Lightning protocol.

BIOSEARCH™ TECHNOLOGIES

sbeadex Lightning Plant DNA Kit

Simple and high-speed DNA purification from plant and seeds

DNA concentration and purity with sbeadex Lightning Plant DNA Kit versus leading competitors

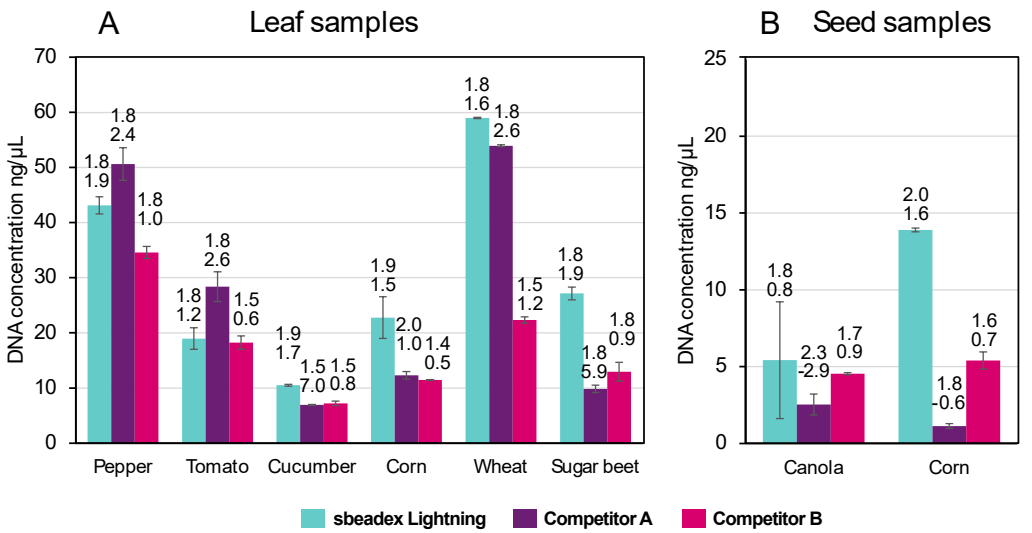


Figure 2. Mean DNA concentration and purity measurements achieved following purification of leaf (A) and seed samples (B) using the sbeadex Lightning Plant DNA Kit and two competitor kits. DNA concentration was quantified via fluorescence measurements using the Qubit and DNA purity measurements estimated via mean absorbance ratios. Upper numbers = $A_{260/280}$ and lower numbers = $A_{260/230}$. Elution volumes = 100 µL. Each bar represents average DNA concentration (n=3 extractions per material, for sugar beet n=2). Error bars represent standard deviation.

DNA purified using the sbeadex Lightning Plant Kit is suitable for qPCR

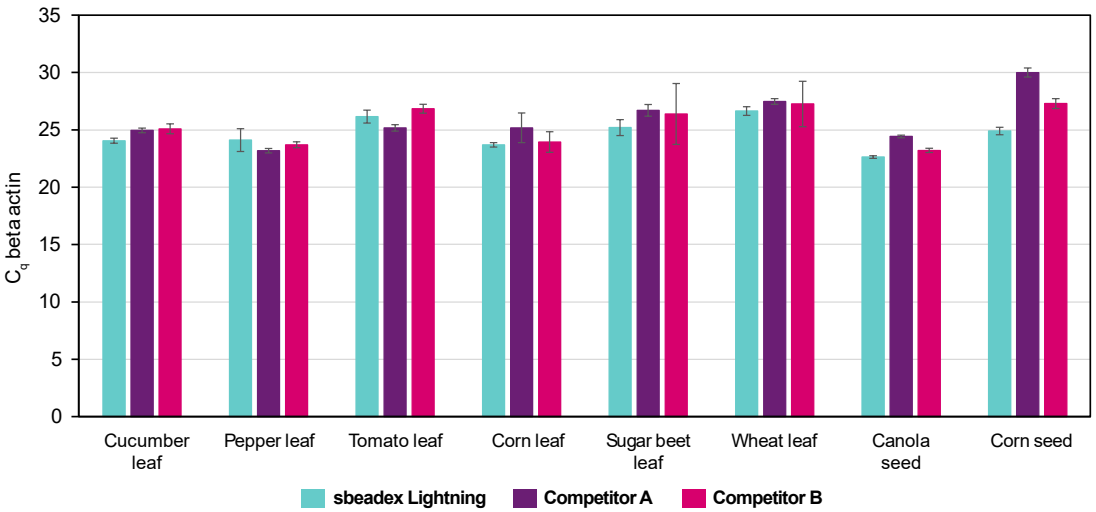


Figure 3: DNA eluates from comparative DNA extractions using sbeadex Lightning plant kit and two competitor kits with various leaf and seed materials (n=3 extractions per material, for sugar beet n=2) were applied to a qPCR reaction amplifying a plant actin gene target[1] with 800 nM and 400 nM final concentrations for primers and probe, respectively, in conjunction with RapiDxFire qPCR 5X Master Mix GF. Two qPCR replicates were run per extraction replicate. Each bar represent average C_q value for beta actin. Error bars represent standard deviation.
[1]Scholtens et al (2017), DOI 10.1007/s00216-017-0333-7

Concentrations and purity of DNA purified with the sbeadex Lighting Plant HTP Kit in a 384-well plate format compared to a market leading competitor.

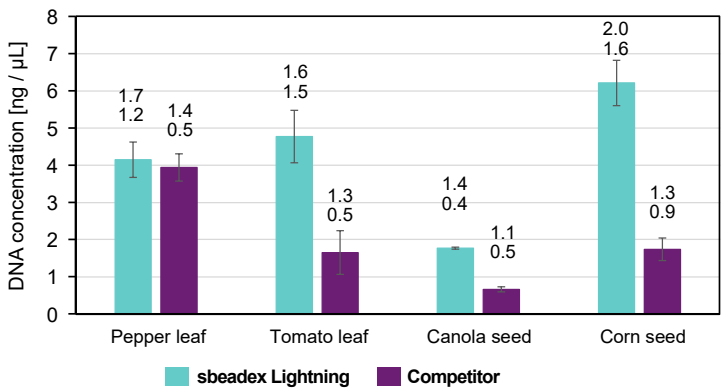


Figure 4: Mean DNA concentration and purity measurements achieved following purification in a 384-well format from leaf and seed samples using the sbeadex Lightning Plant DNA purification kit and one competitor Kit. DNA concentration was quantified via fluorescence measurements using the Qubit and DNA purity measurements estimated via mean absorbance ratios. Upper numbers = $A_{260/280}$ and lower numbers = $A_{260/230}$. Elution volumes = 50 µL. Each bar represents average DNA concentration (n =3). Error bars represent standard deviation

BIOSEARCH™ TECHNOLOGIES

sbeadex Lightning Plant DNA Kit

Simple and high-speed DNA purification from plant and seeds

sbeadex Lightning saves not only time and labour but also other cost factors associated with plastic consumables, waste disposal, shipping and storage. By significantly reducing liquid and hazardous waste as well as plastic consumption and energy for transportation and instrumentation (and thus CO_2 emissions), sbeadex Lightning is more environmentally friendly than other comparable kits in the market (see figure 5).

Ordering information

Components	Number of purifications	Part code
sbeadex Lightning Plant DNA Kit (10)	10	Request trial kits via the link below
sbeadex Lightning Plant DNA Kit (96)	96	NAP40-035-01
sbeadex Lightning Plant DNA Kit (960)	960	NAP40-035-02
sbeadex Lightning Plant DNA Kit (10,000)	10,000	NAP40-035-03
sbeadex Lightning Plant HTP DNA Kit (1,536)	1,536	NAP40-036-01
sbeadex Lightning Plant HTP DNA Kit (10,000)	10,000	NAP40-036-02

Environmental impact and efficiency compared to competitors

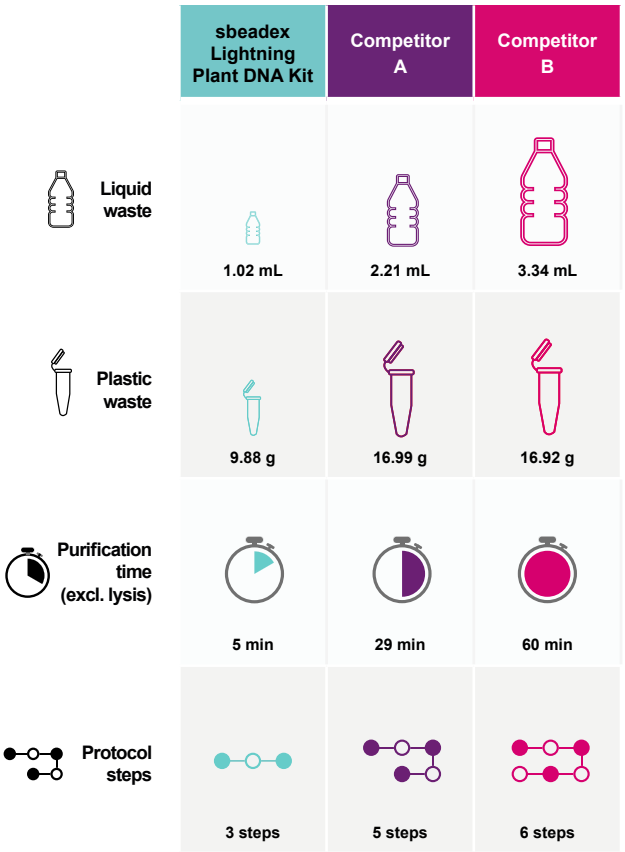


Figure 5. Summary of the key savings for the sbeadex Lightning Plant DNA Kit compared to market-leading competitors. This schematic illustrates the savings in purification time, protocol steps, plastic consumables and liquid waste per sample. The purification time per sample (minutes) refers to the DNA purification starting after the lysis step. Number of protocol steps exclude lysis. Liquid waste (mL) excludes elution volume.

Learn more about the sbeadex Lightning Plant DNA Kit and request your trial kit

@LGCBiosearch | biosearchtech.com

All trademarks and registered trademarks mentioned herein are the property of their respective owners. All other trademarks and registered trademarks are the property of LGC and its subsidiaries. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or any retrieval system, without the written permission of the copyright holder. © LGC Limited, 2025. All rights reserved. GEN/1226/LH/0825

BIOSEARCH™ TECHNOLOGIES