Isolation of plant DNA from *Hordeum vulgare* using the QuickPick™ Plant DNA kit

KEY WORDS: plant DNA, *hordeum vulgare*, magnetic particle separation, purification, PickPen®

ABSTRACT

The QuickPick Plant DNA purification kit provides a fast and simple means of isolating genomic DNA from plant tissues. The technique does not require any organic solvents and eliminates the need for repeated centrifugation, vacuum filtration or column separation. The purified DNA typically shows an approximate size of 20-30 kb.

PRINCIPLE OF QuickPick Plant DNA

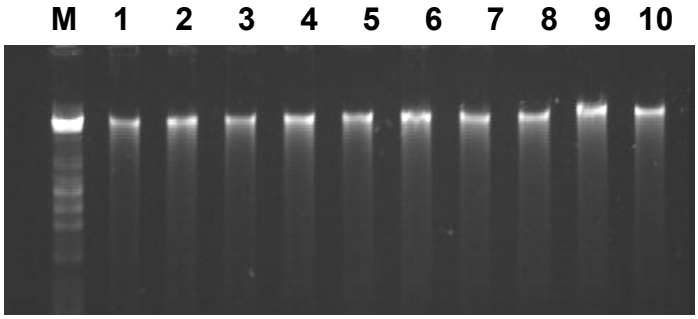
DNA in the sample is released using Proteinase K and Plant DNA Lysis Buffer. The released DNA is bound specifically to the magnetic particles in the presence of Plant DNA Binding Buffer. PickPen® 1-M is used to capture the magnetic particles with bound DNA, and to carry out subsequent washes to remove contaminants. Finally, DNA is eluted from the particles using Plant Elution Buffer, and DNA is ready for use in downstream applications. The protocol, starting from homogenized plant sample, and ending with purified DNA takes less than 40 minutes, and throughput can be further increased by using PickPen® 8-M.

MATERIALS & METHODS

250 mg of *Hordeum vulgare* (barley) was homogenized in liquid nitrogen. The powder was resuspended into the Plant DNA Lysis Buffer, and divided into 10 aliquots of 25 mg each. The 10 samples were purified with the QuickPick Plant DNA kit and PickPen® 1-M, following the protocol as described in the kit insert. 2 µl of a 500 µg/ml RNase solution was added to each sample in the lysis step to degrade RNA.

RESULTS

The isolated DNA was loaded onto a 1% agarose gel. To each well was added 1 µl Sybr Green, 1 µl TD loading buffer, 2 µl eluate and 6 µl distilled water. Intact high molecular weight DNA was detected from all samples with good reproducibility.



M = Marker

1-10 = DNA isolated from 25 mg of barley