The following protocol describes a user developed lysis procedure followed by DNA purification using the QIAGEN® Genomic-tip.

The protocol has been successfully applied for the isolation of HMW genomic DNA from plants and filamentous fungi, as well as clam symbionts.

User-Developed Protocol:

Isolation of genomic DNA from plants and filamentous fungi using the QIAGEN® Genomic-tip

This procedure has been adapted by customers from the QIAGEN® Genomic-tip Protocols, and is for use with the QIAGEN Genomic-tips. **It has not been thoroughly tested or optimized by QIAGEN.**

Please be sure to read the *QIAGEN Genomic DNA Handbook* and detailed Protocol for Isolation of Genomic DNA from Blood, Cultured Cells, Tissue, Yeast, or Bacteria carefully before beginning this procedure.

Procedure

1. **Estimate the approximate DNA content per unit weight (e.g., mg or g) of tissue. Which particular QIAGEN-tip is used will depend upon the amount of DNA required (Genomic-tip 20/G: up to 20 µg; 100/G: up to 100 µg; 500/G: up to 500 µg). Freeze the appropriate amount of tissue in liquid nitrogen and pulverize.**
2. **Suspend powder in lysis buffer (Genomic-tip 20/G: 2ml; 100/G: 15 ml; 500/G: 40 ml) containing:**

20 mM	EDTA
10 mM	Tris·Cl, pH 7.9
0.5 mg/ml	of an enzyme for digesting cell wall material
1 %	Triton® X-100
500 mM	Guanidine-HCl
200 mM	NaCl.

3. **Incubate at 37–45°C for 1–2 h with gentle agitation.**
4. **Supplement with DNase-free RNase A (20 µg/ml) and incubate for 30 min at 37°C.**
5. **Add Proteinase K to 0.8 mg/ml and incubate for 2 h at 50°C with gentle agitation.**
6. **Centrifuge for 20 min at 12–15,000 x *g* to pellet insoluble debris.**
7. **Transfer clarified lysate to the appropriate buffer QBT-equilibrated QIAGEN Genomic-tip (Genomic-tip 20/G: 1 ml; 100/G: 3 ml; 500/G 10 ml).**
8. **Wash with Buffer QC (Genomic-tip 20/G: 4 x 1 ml; Genomic-tip 100/G: 2 x 10 ml; Genomic-tip 500/G: 2 x 30 ml).**
9. **Elute with Buffer QF (Genomic-tip 20/G: 0.8 ml; Genomic-tip 100/G: 5 ml; Genomic-tip 500/G: 15 ml).**

10. **Precipitate DNA by adding 0.7 volumes of room-temperature isopropanol.**
11. **Centrifuge for 20 min at 15,000 x *g* to pellet DNA, or spool out DNA on a glass rod.**
12. **Wash with ice-cold 70% ethanol.**
13. **Air-dry and resuspend in TE.**