

Successful Plant Preps: Plant Species that were able to isolate high-quality HMW gDNA with specific protocol

Plant Species	Tissue Type	Protocol Used	Starting Tissue (g)	Processed	Additional Triton	40 x g Spin	# Additional Washes ±Triton	Density Gradient	# Plugs Made	Tissue eq. /Plug (mg)	DNA/Plug (µg)	gDNA (ng/µl)	Notes
Arabidopsis	Flowers	Base Protocol	1	all	- Triton	√	0	√	3	300	4.4		
Cotton*	Young leaves	High Polyphenols	0.5	all	+Triton	√	4 + Triton	√	3	167	6.3		
Cotton*	Young leaves	LNG	0.5	0.2 g	+Triton	√	4 + Triton	√	3	67	5.1		
Eucalyptus*	Young leaves	High Polyphenols	1	all	+Triton	√	4 + Triton	√	3	333	4.8		
Grapevine	Young Leaves	High Polyphenols	0.5	all	+Triton	√	4 + Triton	√	3	167	4.4		
Grapevine	Young Leaves	LNG	0.5	0.25 g	+Triton	√	4 + Triton	√	3	83	4.9		
Maize*	Young leaves	Base Protocol	1.3	all	- Triton	√	0	√	3	400	9.5		
Maize*	Young leaves	High Polysaccharides	0.25	all	- Triton	√	4 - Triton	-	5	50	3.6		
Soybean*	Young leaves	High Polysaccharides	0.5	0.1 g	- Triton	√	4 - Triton	-	3	33	3.5		
Tomato*	Young leaves	Base Protocol	0.7	all	- Triton	-	0	√	4	150	5.8		
Tomato*	Young leaves	High Polysaccharides	0.25	all	- Triton	√	4 - Triton	-	5	50	4		
Oat	Young leaves	Base Protocol	1	all	- Triton	√	0					115	
Coffee	Young leaves	High Polyphenols	2			-	0				35		
Peanut	Young leaves	Base Protocol	1									90	
Wheat	Young leaves	Base Protocol	1.5	all	- Triton	√	0	√	4	0.4	6	101	
Arabidopsis thaliana (Columbia ecotype)	Young leaves	Base Protocol	2	all	- Triton	-	0	√	2	1000	5.3	75	
Watermelon	Young leaves	Base Protocol	1.5	all					2	750		> 1000	
Pepper	Young leaves	Base Protocol	1.5									> 1000	

Unsuccessful Plant Preps: Plant Species that failed to isolate high-quality HMW gDNA with specific protocol

Plant Species	Protocol Failed	Notes
Soybean*	Base Protocol	Bionano
Eucalyptus*	Base Protocol	Bionano
Diploid Strawberry*	Base Protocol	Bionano
Grapevine*	Base Protocol	Bionano
Ash Tree*	Base Protocol	Bionano
Maidenhair tree	Base Protocol	Customer
Banana	Base Protocol	Customer
Muscadine	Base Protocol	Customer

* Species used for protocol development at Bionano.

Plant Publications

Species	Year Published	Species	Year Published	Species	Year Published
Amaranth	2016	Hardy rubber tree	2017	Subterranean clover	2017
Apple	2017	Indica rice	2017	Tartary buckwheat	2017
Arabidopsis thaliana	2018	Maize	2017	Tobacco	2017
Arabidopsis thaliana	2018	Maize	2016	Tomato, potato	2018
Arabidopsis thaliana	2017	Medicago truncatula	2017	Triticum urartu	2018
Arabidopsis thaliana	2016	Nelumbo nucifera	2018	Wheat	2018
Asparagus	2017	Nicotiana tabacum	2017	Wheat	2018
Banana	2016	Oropetium thomaeum	2015	Wheat	2018
Barley	2017	Peanut	2018	Wheat	2017
Barley	2017	Potato	2017	Wheat	2016
Brachypodium	2018	Quinoa	2017	Wheat - Aegilops tauschii	2017
Brassica	2017	Red silk cotton tree	2018	Wheat - Aegilops tauschii	2017
Brassica juncea	2016	Sorghum	2018	Wheat - Aegilops tauschii	2017
Breat wheat	2017	Spinich	2017	Wheat - Aegilops tauschii	2015
Cercosporin	2017	Spirodela polyrhiza	2017	Wheat - Aegilops tauschii	2013
Finger millet	2017	Strawberry	2017	Wild emmer wheat and Aegilops tauschii	2018
Flax	2018	Subterranean clover	2017		

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