

	Standard procedures – Cells, bacteria and blood <i>Compatible kit: Nanobind CBB or Nanobind tissue kit</i>					Standard procedures – Plant <i>Compatible kit: Nanobind plant nuclei kit</i>		Standard procedures – Tissue samples <i>Compatible kit: Nanobind tissue kit</i>			
Sample type	Cultured cells	Gram-negative bacteria	Gram-positive bacteria	Mammalian blood	Nucleated blood	Plant tissue (TissueRuptor)	Plant tissue (LN2 Grinding)	Animal tissue (TissueRuptor)	Animal tissue (Dounce homogenizer)		
Input amount	1x10 ⁶ - 5x10 ⁶ cells	5x10 ⁸ - 5x10 ⁹ bacterial cells	5x10 ⁸ - 5x10 ⁹ bacterial cells	200 µL	5-30 µL	1-4 g	1-5 g	25 mg	25 mg		
Procedure	Procedure & checklist – Extracting HMW DNA from cultured cells using Nanobind kits	Procedure & checklist – Extracting HMW DNA from Gram-negative bacteria using Nanobind kits	Procedure & checklist – Extracting HMW DNA from Gram-positive bacteria using Nanobind kits	Procedure & checklist – Extracting HMW DNA from mammalian whole blood using Nanobind kits	Procedure & checklist – Extracting HMW DNA from nucleated blood using Nanobind kits	Procedure & checklist – Isolating nuclei from plant tissue using TissueRuptor disruption followed by Procedure & checklist – Extracting HMW DNA from plant nuclei using Nanobind kits	Procedure & checklist – Isolating nuclei from plant tissue using LN2 disruption followed by Procedure & checklist – Extracting HMW DNA from plant nuclei using Nanobind kits	Procedure & checklist – Extracting HMW DNA from animal tissue using TissueRuptor	Procedure & checklist – Extracting HMW DNA from standard Dounce homogenizer tissue using Nanobind kits		
Description	Standard HMW DNA extraction from cultured cells	Standard HMW DNA extraction from cultured Gram-negative bacteria	Standard HMW DNA extraction from cultured Gram-positive bacteria	Standard HMW DNA extraction from mammalian blood (e.g., human)	Standard HMW DNA extraction from nucleated blood (e.g., fish, birds, and reptiles)	Standard HMW DNA extraction from plant tissues using TissueRuptor. TissueRuptor results in higher extraction yields than LN2 grinding and is recommended first.	Standard HMW DNA extraction from plant tissues using LN2 grinding. LN2 grinding is recommended for fibrous plants and some challenging plant species but has lower extraction yields.	Standard HMW DNA extraction from animal tissues using TissueRuptor. See Sample information table in Guide & overview document for specific tissue disruption recommendations.	Standard HMW DNA extraction from animal tissues using Dounce homogenizer. See Sample information table in Guide & overview document for specific tissue disruption recommendations.		
Example procedures established with specific sample types <i>Compatible kit: Nanobind tissue kit</i>											
Sample type	cryoPREP tissue homogenization	Aplysia	Snail	Crab	Various fish tissues	Fish testis	Fish skeletal muscle	Human breast	Mammalian brain	Mammalian liver	Mammalian spleen
Input amount	25 mg	25 mg	100 mg	100 mg	25 mg	25 mg	50 mg	20 mg	22 mg	23 mg	19 mg
Procedure	Procedure & checklist – Homogenizing tissue using cryoPREP	Procedure & checklist – Extracting HMW DNA from Aplysia tissue using Nanobind kits	Procedure & checklist – Extracting HMW DNA from black mystery snail tissue using Nanobind kits	Procedure & checklist – Extracting HMW DNA from crab muscle using Nanobind kits	Procedure & checklist – Selecting fish tissue type for sequencing	Procedure & checklist – Extracting HMW DNA from tilapia testis using Nanobind kits	Procedure & checklist – Extracting HMW DNA from fish skeletal muscle using Nanobind kits	Procedure & checklist – Extracting HMW DNA from human breast tissue using Nanobind kits	Procedure & checklist – Extracting HMW DNA from mammalian brain tissue using Nanobind kits	Procedure & checklist – Extracting HMW DNA from mammalian liver using Nanobind kits	Procedure & checklist – Extracting HMW DNA from mammalian spleen using Nanobind kits
Description	Example describing tissue disruption using Covaris cryoPREP instrument	Example describing HMW DNA extraction from aplysia tissues	Example describing HMW DNA extraction from snail tissue	Example describing HMW DNA extraction from crab muscle	Data comparing HMW DNA from a variety of fish tissue types	Example describing HMW DNA extraction from fish skeletal testis	Example describing HMW DNA extraction from fish skeletal muscle	Example describing HMW DNA extraction from fibrous human breast	Example describing HMW DNA extraction from mammalian brain	Example describing HMW DNA extraction from mammalian liver	Example describing HMW DNA extraction from mammalian spleen