sbeadex Lightning buffer recommendations for plant samples

			Lysis buffer			Optimal sbeadex Lightning Core Kit			Additional reagents required	
	Species	Tissue type	Recommended for highest yield	Recommended for highest purity	Non-compatible	Core Kit A (Binding buffer LP)	Core Kit B (Binding buffer LU)	Non-compatible	Protease K Solution[2]	Debris capture beads[2]
Plant samples	Apple	Leaf	**LI** > H	**PN**	UR	✓		n/a	✓	✓
	Banana	Leaf	**PN** > PVP > LI > H	**PN**	n/a	✓		n/a	✓	✓
	Barley	Seed	**PN** > BL	**PN** > UR	n/a	✓	✓	n/a	✓	✓
	Blackberry	Leaf	**UR**	**UR**	PN, PVP, BL, H, LI		✓	n/a	✓	✓
		Leaf	**UR** > PN > LI	**UR** > PN	BL	✓		n/a	✓	✓
	Canola	Seed	**LI** > UR	**LI** > UR	n/a	✓		n/a	✓	✓
	Carrot	Leaf	**UR** > PN > PVP	**UR** > PN > PVP	BL, H, LI	✓		LU (Core Kit B)[1]	✓	✓
		Leaf	**BL** > LBH	**PN** > UR	n/a		✓	n/a	✓	✓
	Corn	Seed	**UR** > LI > H > BL	**PN**	n/a	✓		n/a	✓	✓
		Leaf	**LI** > PVP	**LI** > VP	n/a	✓		LU (Core Kit B)[1]	✓	✓
	Cucumber	Seed	**LI**	**H**	PN, PVP, BL, UR	✓		LU (Core Kit B)[1]	✓	✓
	Currant	Leaf	**PVP** > PN	**PVP** > PN	BL, H, UR, LI	✓		n/a	✓	✓
	Hop	Leaf	**LI** > UR	**UR** > PN > PVP > LI	BL, H	✓		LU (Core Kit B)[1]	✓	✓
	Lentil	Seed	**LI** > PVP	**LI** > PVP	BL, H	✓		n/a	✓	✓
		Leaf	**LI** > H > UR > BL > PN > PVP	**H** > UR > PN > PVP	n/a	✓		n/a	✓	✓
	Oat	Seed	**LI** > H > BL	**LI** > BL > H	n/a	✓	✓	n/a	✓	✓
	Pea	Seed	**LI** > PVP	**LI** > PVP > PN	BL, H, UR	✓		LU (Core Kit B)[1]	✓	✓
	Potato	Leaf	**UR** > PN	**UR** > PN	BL	✓		LU (Core Kit B)[1]	✓	✓
		Leaf	**UR** > BL > LI	**UR** > PN > PVP > LI	n/a	✓		n/a	✓	✓
	Rice	Seed	**BL** > LI > H	**LI** > H > UR	n/a	✓		n/a	✓	✓
	Sorghum	Seed	**BL** > UR > LI > PN	**PN** > UR > LI	n/a	✓	✓	n/a	✓	✓
		Leaf	**LI** > H > BL > UR	**PN** > UR	n/a	✓		n/a	✓	✓
	Soy	Seed	**LI** > H > BL	**LI**	PN, PVP		✓	n/a	✓	✓
	Sugar beet	Leaf	**UR** > LI > BL	**UR** > LI > H > PN	n/a	✓		n/a	✓	✓
	Sunflower	Leaf	**UR** > PN	**UR** > PN	PVP, BL, H, LI	✓		LU (Core Kit B)[1]	✓	✓
		Leaf	**UR** > LI	**UR** > LI > H > PN	n/a	✓		n/a	✓	✓
	Tomato	Seed	**UR** > PVP	**UR** > PVP	BL, H, LI	✓		LU (Core Kit B)[1]	✓	✓
		Leaf	**LI** > UR	**LI** > UR	n/a	✓		LU (Core Kit B)[1]	✓	✓
	Wheat	Seed	**UR** > LI	**PN**	n/a	✓		n/a	✓	✓

Table 1. Lysis buffer performance for plant tissue samples.
LGC Biosearch Technologies have tested a range of plant species with sbeadex Lightning chemistry to determine the optimal lysis buffer for DNA yield and for DNA purity. Lysis buffers tested with each plant sample type were PN, PVP, BL, H, UR and LI. The table details the optimal lysis buffer for each sample type (in bold). All alternative lysis buffers are then listed for either yield or purity in descending order of suitability, and non-compatible lysis buffers are listed separately. The most appropriate sbeadex Lightning core kit for each sample type is also detailed. Note that buffers and core kits listed as incompatible for a particular sample type are based on our in-house testing; it is possible that with sample variation (e.g. younger leaves, alternative input volume), different results may be obtained.

Biosearch Technologies have provided this information as guidance but strongly recommend that you use the sbeadex Lightning Nucleic Acid Purification Starter Kit to ensure the optimal nucleic acid purification conditions for your specific sample type and downstream application.

For more detailed information regarding this data, or for any other technical queries regarding sbeadex Lightning, please contact our technical support team: techsupport@lgcgroup.com.

[1]for some lysis buffers
[2]2 µL Protease K solution (20 mg/mL) per 1 mL of lysis buffer. 40 µL Debris capture beads per 1 mL of lysis buffer.

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sbeadex Lightning buffer recommendations for livestock samples

			Lysis buffer			Optimal sbeadex Lightning Core Kit			Additional reagents required	
	Species	**Tissue type**	**Recommended for yield**	**Optimal for purity**	**Non-compatible**	**Core Kit A (Binding buffer LP)**	**Core Kit B (Binding buffer LU)**	**Non-compatible**	**Protease K Solution[5]**	**Debris capture beads[5]**
Livestock samples	Bovine	Muscle tissue	**LI**	**LI**	n/a	✓		n/a	✓	
		Hair	**H**	**LI**	n/a	✓		n/a	✓	
		Ear punch (in preservative solution)	**PVP[1]**	**PVP[3]**	n/a	✓		n/a	✓	
	Chicken	Muscle tissue	**LI**	**LI**	n/a	✓		n/a	✓	
	Fish	Tissue	**LI**	**LI**	n/a[4]		✓	n/a	✓	

Table 2. Lysis buffer performance for livestock tissue samples.
Biosearch Technologies have tested a range of livestock species with sbeadex Lightning chemistry to determine the optimal lysis buffer for DNA yield and for DNA purity. Not all sbeadex Lightning lysis buffers were tested with all sample types due to known incompatibilities with sample preservation solutions. The table details the optimal lysis buffer for each sample type. Incompatibility of lysis buffers with livestock sample types is highly dependent on sample type; the buffers listed as optimal for yield and for purity are recommended for these sample types. The most appropriate sbeadex Lightning core kit for each sample type is also detailed in the table.

Biosearch Technologies have provided this information as guidance but strongly recommend that you use the sbeadex Lightning Nucleic Acid Purification Starter Kit to ensure the optimal nucleic acid purification conditions for your specific sample type and downstream application. If working with samples in Allflex buffer, or using Lysis buffer PVP, an additional wash step with Wash Buffer TN2 or PN2 is strongly recommended.

For more detailed information regarding this data, or for any other technical queries regarding sbeadex Lightning, please contact our technical support team: techsupport@lgcgroup.com.

[3]Wash with Wash buffer TN2 instead of water
[4]Lysis buffer BL not tested for this sample type
[5]10 µL Protease K solution per sample. 40 µL Debris capture beads per 1 mL of lysis buffer.