

IrysPrep validated sample types and amounts:

Cultured human cells:

- 9×10^5 cells (diploid human cells) will go into a single agarose plug and yield 6 ug of DNA. Request enough cells to make several plugs.

Bacteria:

- Quantitate DNA using a standard Qiagen kit in order to target 6 ug of DNA per plug.

Unknown/untested cell types:

- Either quantitate DNA to target 6 ug of DNA per plug, or make several titrations of plugs to ensure that one of the titrations will be in range

Human blood:

- The standard protocol uses 3 mL of fresh human blood as starting material. 400 uL goes into each plug to target 6 ug of DNA per plug. This assumes a "normal" WBC count, which accounts for ~80% of people.
 - Sample may optionally be quantitated, in order to ensure correct cell count/DNA content per plug, particularly if it is suspected to have abnormally high or low WBC count.
- Frozen blood may be used, though modifications need to be made, and results are often less than ideal; often the entire 3 mL volume will need to be embedded in a single plug to account for WBC lysis during freeze-thawing.

Animal:

- Tissue should be harvested fresh and flash-frozen in liquid nitrogen and stored at -80C in order to minimize nuclease activity.
- The IrysPrep Animal Tissue kit is designed to process up to 40 mg of tissue at a time, though it can be scaled up. Larger tissue chunks can be broken up under liquid nitrogen if necessary
- 5-10 mg of tissue is embedded per plug to target 4-6 ug of DNA each.
- The kit split into two workflows. The same set of reagents is used for each, just different protocols to follow:
 - Soft tissues, such as liver, kidney, or brain.
 - Fibrous tissues, such as lung or muscle.

Plant:

- The IrysPrep Plant Tissue kit is designed to process 1 gram of young fresh leaf tissue for most species, in order to target 6-7 grams of DNA per plug.
- The youngest, freshest leaves possible should be used, ideally from seedlings or else new sprouts.
- Avoid using mature leaves, as they accumulate a lot of metabolites and waste products, which compromise DNA quality. Generally, fewer fresh leaves is better than more mature leaves.
- Do not dark-treat.
- Frozen leaves have been tested but give inconsistent results. For shipping offsite, fresh plant shipping instructions should be followed