

Time to change your PCR end-of-run from 4 °C to 12 °C? The GTF already has.

A simple protocol tweak that, for routine applications, preserves sample quality, protects your instrument and reduces unnecessary energy use.

CIG's Genomics Technology Facility (GTF) has already switched. It now uses a 12 °C final hold for a wide variety of library preparation workflows (RNAseq, WGS, Single cell libraries,...) with no observed impact on data quality after sequencing.

The 4 °C end-of-run hold is set by default in many labs, but it is unnecessary in most routine applications. PCR products are far more stable at ambient temperatures than is often assumed, and, any residual Taq Polymerase activity at 12 °C may only be a concern in a small number of sensitive downstream applications, not for standard workflows.

Maintaining 4 °C often harms more than it helps. Prolonged cold holds keep Peltier modules under sustained load, accelerating wear on a component that is costly to replace. Very low temperatures also increase the risk of condensation inside the instrument, which can promote corrosion and electronic failures over time. Finally, maintaining 4 °C is among the most energy-demanding states of a thermocycler, drawing energy unnecessarily.

What to do

- **Set your final hold to 12 °C.** This is sufficient for standard retrieval time windows, including overnight runs — collect your tubes the following morning without concern.
- **Check whether your protocol has specific requirements.** Some applications do (e.g blunt-end direct cloning workflows). If in doubt, contact Roberto.Sermier@unil.ch at the GTF before adjusting your settings.
- **See it for yourself .** Run a quick side-by-side at 4 °C vs 12 °C on your own samples. For a routine PCR, band quality and yield will tell you everything you need to know.

FURTHER READING

- [Carolina Biological — Debunking the 4 °C PCR myth](#)
- [miniPCR bio — PCR can be left at room temperature overnight](#)