1. **Prepare samples:**

* Label microtubes! (you can use 1, 2, 3, etc)
* Use the chart as a checklist so you don’t forget to add all reagents.
* Start with the STE buffer, then add Sample Loading Buffer (blue). Add your DNA samples last.
* WATCH as the tiny volumes go in and out of your micropipet. Think about what you are doing and why.
* Change micropipet tips when you change reagents or if you touch the tip to the liquid in the tubes, to your fingers or anything else except the intended sample.
* WHEN IN DOUBT, CHANGE TIPS!
* Tip: We are using the real research lab names for all the buffers and solutions. You’ll need to keep in mind that more than one thing can have “buffer” or “blue” in its name. Double-check names to be sure you’re using what you really intend.

Precut DNA (Forensics) Sample Preparation Guide for Teachers

Sample 1: DNA from suspect A (Marker I/EcoRI) (green tube)

Sample 2: DNA from suspect B (Suspect B is the bad guy) (Marker II/Hind III) *(pink tube)*

Sample 3: DNA from suspect C (Marker III/Eco RI + Hind III) (blue tube)

Sample 4: DNA from suspect D (Marker F4, F5, or F6)\* *(purple tube)*

Sample 5: DNA from suspect E (Marker F4, F5, or F6)\* *(purple tube)*

Sample 6: Evidence DNA #1 (Blood, etc) (Marker II/Hind III) *(pink tube)*

Sample 7: 1kB Ladder *(orange tube)*

Sample 8: Lambda DNA (will be just a smear) *(yellow tube)*

\* You will usually be given 2 of our 3 available Forensics markers – Pst I, Eco RV, or Bgl II

We give you 2X of Marker II – you will need to aliquot it into 2 different tubes: One is DNA from Suspect B (the culprit) and one is DNA evidence from the crime scene

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Add to Tube: | Tube: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| STE (salt buffer) (large clear tube) | | **10 μl** | **10 μl** | **10 μl** | **8 μl** | **8 μl** | **10 μl** | **12 μl** | **12 μl** |
| Sample Loading Buffer (microtube of blue soln.) | | **3 μl** | **3 μl** | **3 μl** | **3 μl** | **3 μl** | **3 μl** | **3 μl** | **3 μl** |
| Sample 1 (Marker I) | | **4 μl** | XX | XX | XX | XX | XX | XX | XX |
| Sample 2 (Marker II) | | XX | **4 μl** | XX | XX | XX | XX | XX | XX |
| Sample 3 (Marker III) | | XX | XX | **4 μl** | XX | XX | XX | XX | XX |
| Sample 4 (Marker Eco RV) | | XX | XX | XX | **6 μl** | XX | XX | XX | XX |
| Sample 5 (Marker Bgl II) | | XX | XX | XX | XX | **6 μl** | XX | XX | XX |
| Sample 6 (Marker II) | |  |  |  |  |  | **4 μl** |  |  |
| 1 kB Ladder (orange tube) | | XX | XX | XX | XX | XX | XX | **2 μl** | XX |
| uncut λ DNA (yellow tube) | | XX | XX | XX | XX | XX | XX | XX | **2 μl** |
| Total Volume | | **17 μl** | **17 μl** | **17 μl** | **17 μl** | **17 μl** | **17 μl** | **17 μl** | **17 μl** |

**Mix well and Spin down**

Add **15μl** to each lane of your gel.