

A typical reaction mix for a single sample is detailed below – parentheses give concentrations in reaction mix, not concentration of stock:

Sigma Jump Start Taq (0.25U):	0.1 ul
10X Reaction Buffer (1X):	1.0 ul
25mM Magnesium Chloride (1.5mM):	0.6 ul
1.25mM dNTPs (125uM of each base):	1.0 ul
10uM Upper Primer (0.5uM):	0.5 ul
10uM Lower Primer (0.5uM):	0.5 ul
Double distilled water (ddH ₂ O):	4.3 ul
Template DNA:	<u>x.x ul</u>
Final volume:	10 ul

Typically 2.0 ul of template would be added and the reaction would be brought up to volume with ddH₂O (4.3 ul), a sealing mat or strip-tube top would be applied, and the reaction would be run on the cycler. If you want to use more or less template DNA, you need to adjust ddH₂O accordingly.

When setting up reactions, you typically do not want to set up individual reactions for each sample. Typically, reactions are set-up according your needs. In the lab, this will typically involve the use of 96-well plates (hence, setting up reactions for 94 samples with a + and – control). However, due to pipetting error, we tend to make up “master mix” for more samples than we plan to run. So, assuming we are using Eppendorf Pipets (which have a lot of error) and 2.0 l of template per sample, a “master mix” for 102 samples would look like this:

Sigma Jump Start Taq (0.25U):	10.20 ul
Reaction Buffer (1X):	102.0 ul
Magnesium Chloride (1.5mM):	61.20 ul
dNTPs (125uM of each base):	102.0 ul
Upper Primer (0.5uM):	102.0 ul
Lower Primer (0.5uM):	102.0 ul
Double distilled water (ddH ₂ O):	336.6 ul
Template DNA:	<u>x.x ul</u>
Final volume:	1020 l

We would pipet 8.0 ul into each well of the 96-well plate and then add our 2 ul template DNA to each well.