

If you needed a particular Size of DNA, say for the next step of your experiment, if you wanted to insert it into a plasmid or a vector, you could cut this out of the gel and use it for that.

Now let's talk about the two kinds of gels that are most commonly used. The first is agarose, and the second is SDS-PAGE.

So, Agarose is a gel that's usually used for Separating big pieces of DNA.

So, if you think about the pore size in the agarose, it has pretty big pores, so imagine it looking kind of like this.

The gel is pretty big. There's big holes here, so that you'll be able to separate out the big pieces of DNA that come through. However, if you're trying to separate out little pieces, it won't be that obvious, because they'll all just race through these giant holes.

So, remember that this is for big DNA fragments. Usually, this is for DNA that's bigger than 50 base pairs.

SDS-PAGE, on the other hand, can be used for very Small things.

So, imagine that being a much finer weaving with Smaller pores. Although this can be used for small pieces of DNA, it can also be used for proteins.

You might be wondering, what does SDS-PAGE even stand for. The SDS part is Sodium Dodecyl Sulfate. This is a chemical agent that denatures protein, disrupting any non-covalent interactions they may have.

This makes it so that the charge of the proteins isn't a factor when they're separating out onto the gel, and they're only being separated strictly by Size. The PAGE part is PolyAcrylamide Gel Electrophoresis, or we'll just leave it at GE.

So, Polyacrylamide is the substance that gel's made out.

So, how can we remember the difference between these two types of gels? Remember that SDS-PAGE is for Small or DNA proteins. S for Small, and S for SDS.

And agarose is for bigger fragments of DNA.