AncestryDNA's® New Chromosome Painter

Video to Ancestry's New SideView® (Previous Video – Pt. 1)
Video to the Ancestry Chromosome Painter (New Video – Pt. 2)

First Things First

There are two videos worth of information in one hand out here. The first part is a recap of Ancestry's SideView™ technology that came out earlier this year (2022). This is the basis for the second part about the new chromosome painter (and this new vide0).

Ancestry's SideView® (Part 1)

Video Link

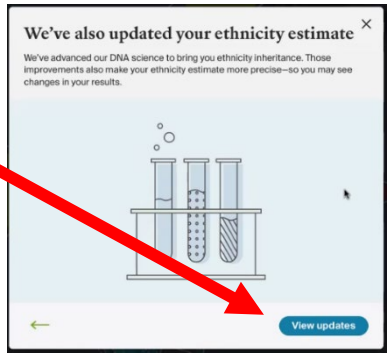
New at AncestryDNA® (spring 2022) is their product called SideView™ which separates our parents' DNA (a.k.a. Phasing) using your DNA and nothing else. Even if you don't know who your parents are, Ancestry is now separating one side of your DNA ethnicity estimates from the other side calling them Parent 1 and Parent 2.

They have also updated your ethnicity estimates, but not the regions.

Here are step by step instructions on how to find it and how do use it.

First time seeing your results...

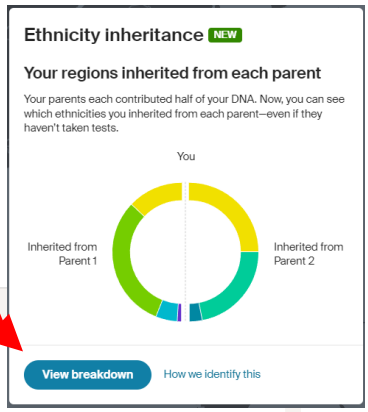
1. On Ancestry.com, login, and click the DNA tab. You might see a screen with two slides briefly explaining the new feature. Click View Updates to see your DNA ethnicity updates. It will then skip the next two steps.

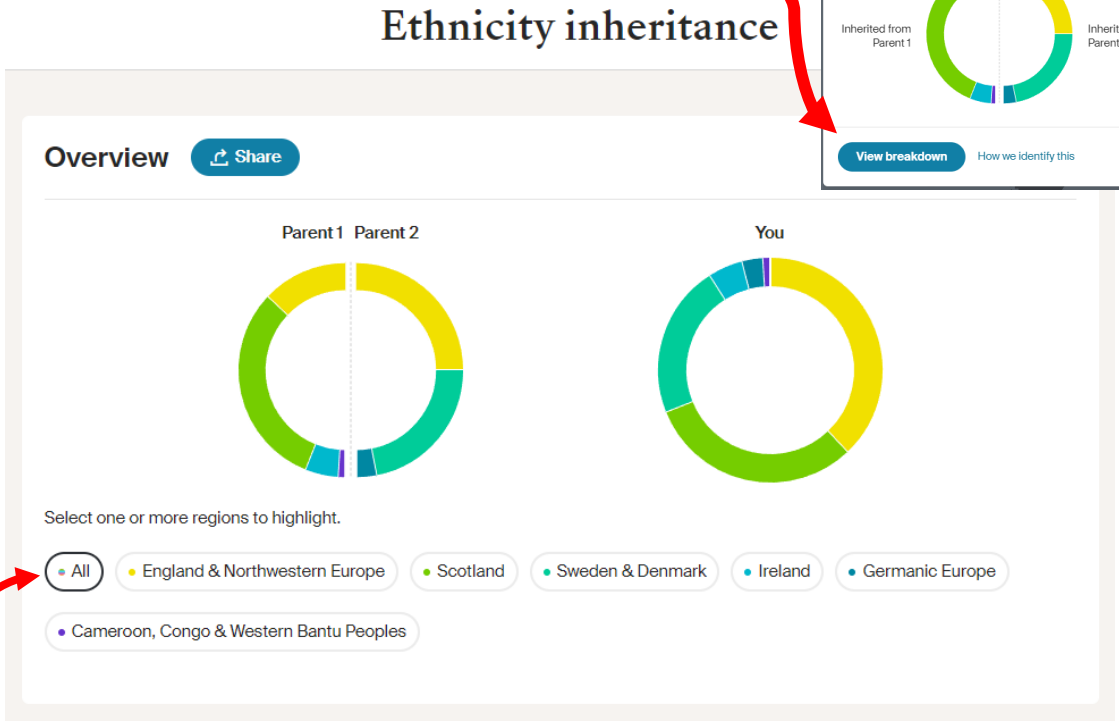


When you return after the first time...

2. Click Discover Your DNA Story from the DNA tab.

3. Scroll down to the Ethnicity Inheritance box and click View Breakdown.



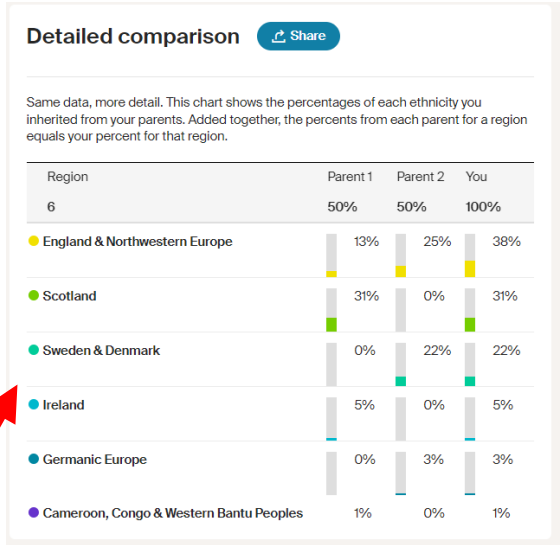


Now, you have two sides of your DNA slitting parental sides. This shows how your DNA was derived from each of your parents, (on the left) and your total ethnicity percentage estimates on the right, shown in the pie charts.

Ancestry can do this because of their large database has grown to more than 22 million test takers (as of Mid-2022) with more than 95% accuracy on 90% of their DNA community.

Here you can click on the different regions to isolate just that region.

Scroll down to see how Ancestry breaks out your DNA ethnicity by region and percentage.



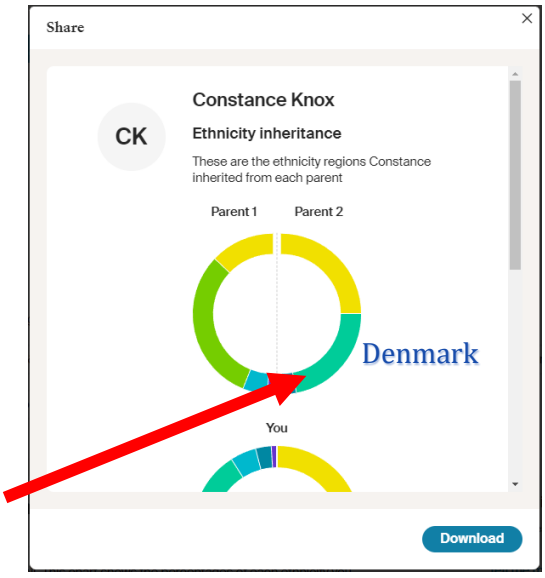
Notice it says Parent 1 and Parent 2.

Ancestry says this is **not an accurate estimate of your parents' ethnicity estimates**.

Share and Download

You can share and download your DNA Ethnicity Inheritance. Click the download button on the lower right.

If you have your parents are tested, they will show as matches and would be considered part of the process of grouping your DNA's parental sides.



Label Parents

You now have the ability to label your parents, once you figure out which side is which. For example, I know my father's side is from Denmark, thus I know that Parent 2 is my paternal side (since the other side has no Danish ethnicity), thus Parent 2 is my paternal side.

Label Matches

Coming soon, is the ability to label your matches (for about 85% of your DNA matches) down to 8cM.

Ancestry promises they will keep adding more features, but they are keeping a tight lid on the rest of their updates for now.

Limitations

Ancestry said there may be some groups that are not able to be "grouped." For example, if an ancestral couple are genetically related, like 2nd cousins, then Ancestry might not be able to group this clan into genetic networks (or parental sides).

Endogamy

If there is the potential for endogamy, this may cause issues for Ancestry to properly divide your DNA ethnicity estimates into parental sides.

The expectation for grouping the paternal side from the maternal side is that about 50% of DNA matches will be grouped for endogamic families.

Conclusion for SideView (Part 1)

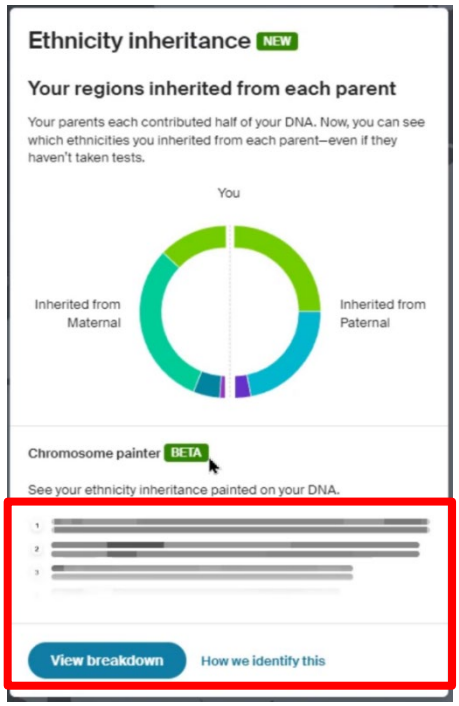
I think this is the start of something bigger. As more people test at Ancestry, the more data they can examine and find genetic matches grouping people into genetic networks. This will allow for future divisions of our ancestral lines. I suspect that it won't be long before they can split this same graph into our grandparents. Time will tell.

The New Chromosome Painter at Ancestry (Part 2)

Video Link

You can locate the new chromosome painter in the same area where the ethnicity results are located.

Keep in mind that this is an *ethnicity* chromosome *painter*.



FIND THE CHROMOSOME PAINTER

- Go to the DNA tab, drop down to DNA Story.
- On the right, scroll down to see a view like this (on the right).
- Click anywhere in the chromosome painter area to open it up.
- Notice at the top of the new page two tabs, one says Ethnicities and the other is Chromosome Painter (just for reference).

About DNA

Let's briefly recap how you got your autosomal DNA.

Ancestry uses only autosomal DNA.

- You got 50% of your DNA from your father and 50% from your mother.
- We have 22 pairs of chromosomes.
- The 23rd chromosome determines the gender...so we're not talking about that here.

Ancestry's Chromosome Painter Graph

Each of the 22 chromosomes on the graph have two lines, one represents the DNA you got from your father, and one represents the DNA you got from your mother.

If you were able to determine and label which side was your mother vs. your father (in the previous video/first section of this handout), then this would also show on the chromosome painter (as shown in this video).

Since I was able to label my paternal from maternal sides, it is shown below as Maternal and Paternal instead of Parent 1 & 2. If you are not able to determine which side is which, you are likely to see Parent 1 and Parent 2 on these tabs at the top of the graph.

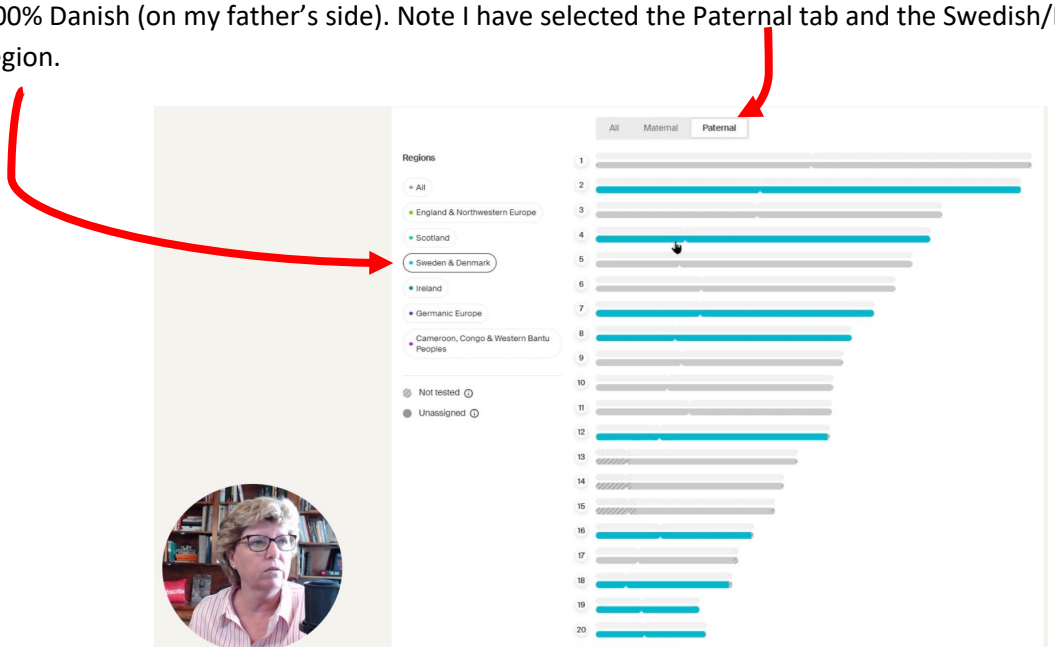
Not the Same as a DNA Browser

Keep in mind that this is not the same as the chromosome *browser* that you might see on another platform, such as MyHeritage, where you are comparing your DNA to other cousins.

Seeing Ethnicity Regions in the Chromosomes

Clicking on the left side "Regions" will allow you to see which of your chromosomes come from which parts of the world.

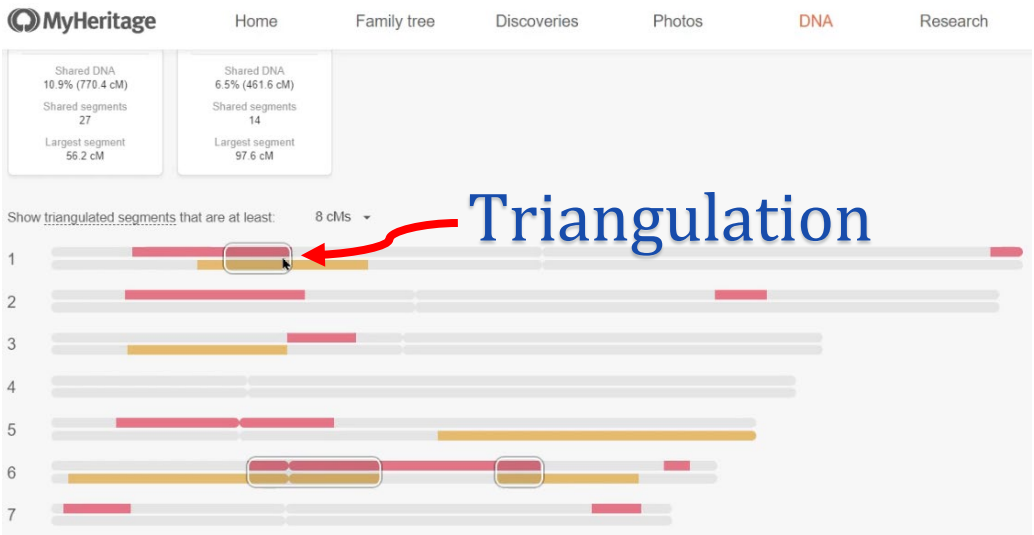
In my case, I was able to see exactly which chromosomes came from my Danish grandmother, who was 100% Danish (on my father's side). Note I have selected the Paternal tab and the Swedish/Demark region.



The unassigned areas are those where there was not enough data for Ancestry to have confidence in to determine the ethnicity region.

MyHeritage in Comparison

On MyHeritage, they are not painting the ethnicity regions, they are showing a comparison of your DNA compared to other DNA cousins you have chosen. Where there is overlap between you and at least two other cousins, you may see a grayish box. This is an area where all three of you share the exact same DNA, known as "triangulation". If you know who the common ancestors you all share, you can estimate that the triangulated part of the DNA is from the common ancestors.



Long story short, you can't compare the chromosome *browser* at MyHeritage with the chromosome *painter* at Ancestry. That would be like comparing apples and oranges. Ancestry is painting ethnicity regions and MyHeritage is painting commonalities of your DNA with other genetic cousins.

DNA is at its Infancy

DNA is still at its infancy. Ancestry only started doing DNA tests in 2012. In ten short years, they've come a long way. Also, keep in mind **these are *estimates*** and will change as more test results come in and the industry evolves.

Wrap Up

The next step for Ancestry is for them to start adding DNA cousin matches to the chromosome painter. That will be a lot of fun!