

GSSCC - - DNA Special Interest Group - - handout

Tuesday, November 2, 2021

Comparing and contrasting DNA companies

23 and Me - - www.23andme.com

purpose of tests - - medical, genealogical, personal ancestry - - saliva test
message with matches who have opted in through 23 and Me's messaging system; low
response rate; low average level of genealogical knowledge of matches
does not accept upload of raw DNA data from other sites
12 million people in database as of June 4, 2021
has chromosome browser

Overall accuracy and sophistication of the biogeographical ancestry analysis rated on a
1-10 scale = 7. Overall accuracy is reasonably good, but predictions in Europe are not
optimal. Option available to confirm known genealogical relationships between matches.
DNA blogger, Diahan Southard, praises 23 and Me for the precision of its ethnicity
estimates, especially for several regions in Africa and for Ashkenazi Jewish.

Special features - - percentage of Neanderthal DNA shown; Y-DNA (male) and
mtDNA (everyone) haplogroups of matches shown.

Things to like - - beta DNA "tree" feature, although it may, or may not, be
accurate; users can edit the DNA tree; assignment of haplogroups; users can see
shared matches of their DNA matches by clicking on "Find Relatives in Common"
tab; no subscription required; occasional modest discounts on kits during
December holidays.

Shortcomings - - no trees available, although users can post a link to a tree at
another site; purchase of health + ancestry package required in order to purchase
23 and Me+ with extra features; many users test at 23 and Me for health reasons
and are not genealogists.

Family Tree DNA - - Family Finder - - www.familytreedna.com

purpose of tests - - genealogical, personal ancestry - - cheek swab test
message via regular e-mail; medium response rate; medium average level of genealogical
knowledge of matches
accepts upload of raw DNA data from other sites; will share data with law enforcement;
1.4 million people in database as of June 4, 2021
has chromosome browser

Overall accuracy and sophistication of the biogeographical ancestry analysis rated on a 1-10 scale = 3.5. The myOrigins analysis lacks specificity, particularly for Europe. Option available to confirm known genealogical relationships between matches.

Special features - - can join DNA projects (e.g., surname projects, ethnic group projects, geographical projects).

Things to like - - one of the earliest direct-to-consumer DNA companies; Y-DNA and mt-DNA tests available for purchase; high percentage of test-takers from foreign countries; especially strong for people with Jewish ancestry because of its algorithms to help offset problems with endogamy; no subscription required; occasional modest discounts on kits and upgrades.

Shortcomings - - relatively small database of total users; website dashboard is daunting to navigate.

Ancestry DNA - - <https://www.ancestry.com/dna/>
purpose of tests - - genealogical, personal ancestry - - saliva test
message matches through company's own messaging system; low response rate; medium average level of genealogical knowledge of matches
does not accept upload of raw DNA data from other sites; does not share data with law enforcement unless in receipt of court order
20 million people in database as of June 4, 2021
no chromosome browser

Overall accuracy and sophistication of the biogeographical ancestry analysis rated on a 1-10 scale = 5. The Genetic Ethnicity Summary consistently overestimates the Central European and Scandinavian ancestral components for people whose ancestors were from the British Isles. The ancestral component from the British Isles is overestimated for people whose ancestors were from continental Europe. DNA blogger, Diahn Southard, gives Ancestry DNA the edge over 23 and Me for accuracy of European ethnicity estimates, though, especially for Germany and France, which seem to be problem areas for all DNA companies to differentiate between.

The Genetic Community feature indicates which populations or ethnic groups that have existed within the past 150 to 400 years have contributed at least 4% of your autosomal DNA. The Genetic Communities shown in North America are remarkably accurate. Option available to confirm known genealogical relationships between matches.

Special features - - Automatic identification of common ancestors, surnames and birth places between matches' family trees; ThruLines feature.

Things to like - - huge database of DNA test takers and large number of linked trees; platform is easy to navigate; very useful for finding matches in North America; useful for people with ancestry from the British Isles, Scandinavia and western Europe; increasingly useful for matches in Australia and New Zealand; ancestors in common from matching trees are shown; easy-to-use grouping and notes features available; no subscription required; but Ancestry.com subscription is helpful in using DNA match features; frequent substantial discounts on kits.

Shortcomings - - no chromosome browser; can only link one tree to DNA test results; frequent changes to format of match list features can cause confusion.

My Heritage - - www.myheritagedna.com

purpose of tests - - genealogical, personal ancestry - - cheek swab test
message matches through company's own messaging system; medium response rate;
medium average level of genealogical knowledge of matches
accepts upload of raw DNA data from other sites
5.2 million people in database as of October, 2021
has chromosome browser

Overall accuracy and sophistication of the biogeographical ancestry analysis rated on a 1-10 scale = 5. The Ethnicity Estimate generally overestimates the English ancestral component for people whose ancestors were from continental Europe. No option to confirm known genealogical relationships between matches except for notes feature.

Special features - - Automatic identification of shared surnames and shared ancestors between matches' family trees; Smart Matches and Theory of Relativity features; more than 2,100 genetic groups. Recently acquired French site Filae.

Things to like - - helpful clustering tool called AutoCluster; chromosome browser and tool for viewing shared DNA segments between you and multiple DNA Matches; high percentage of test-takers from foreign countries; Theory of Relativity shows exactly whose trees were pieced together to form theory; good for finding matches outside North America; notes feature available; no subscription required, but subscription useful in accessing additional DNA match analytical tools.

Shortcomings - - a high percentage of MyHeritage matches have not tested anywhere else, resulting in more mystery matches.

Living DNA - - www.livingdna.com

purpose of tests - - genealogical, personal ancestry (medical available as upgrade) cheek swab test

message matches through company's own messaging system; medium response rate;

medium average level of genealogical knowledge of matches

accepts upload of raw DNA data from other sites

300,000 people in database as of June 4, 2021

no chromosome browser

Overall accuracy and sophistication of the biogeographical ancestry analysis rated on a 1-10 scale = 6. The Ethnicity Estimate rating for the United Kingdom is 9 and the rating is 4 for the rest of the world. No option to confirm known genealogical relationships between matches.

Special features - - High resolution ethnicity estimates for the United Kingdom; i.e., shows areas of strongest DNA connection down to county level in U.K.

Things to like - - high accuracy of matching DNA to various U.K. counties; good site for people with English, Scottish, Irish and Welsh ancestry; no subscription required; but Living DNA partners with subscription site Find My Past (a tree-building and record searching site)

Shortcomings - - small number of test takers in database; website dashboard difficult to navigate and has many fewer tools for analysis than other sites

Geneanet - - <https://en.geneanet.org/>

Note - - Geneanet is not a vendor of DNA tests. All DNA test-takers at this site have uploaded their raw DNA data from other sources. You can upload your DNA data to Geneanet for free. Geneanet was recently acquired by Ancestry, but will purportedly remain distinct from Ancestry, and free to users.

purpose of tests - - genealogical, personal ancestry

message matches through company's own messaging system; medium response rate;

medium average level of genealogical knowledge of matches

accepts upload of raw DNA data from other sites; accepts GEDcommed tree

4 million members as of February, 2020; unknown number of DNA uploads

has chromosome browser

A leading genealogy site in Europe, based in France; popular with European genealogists. No option to confirm known genealogical relationships between matches. No ethnicity estimate provided.

Special features - - most frequently found surnames and geographic places listed for each match who has provided a tree. A large collection of historical images of European places (see “projects” in top toolbar > “postcards” > enter place name in search box > can filter by various categories, e.g., “castles,” “religious monuments,” “town and village,” etc.).

Things to like - - a good source of European shared matches, especially French; shows shared DNA relatives; advanced search options and enhanced database access available for “premium” subscription. Many French family history societies have shared their indices on Geneanet.

Shortcomings - - matches come and go from the match list; most matches are “low confidence” matches; dashboard is somewhat confusing to navigate; no notes feature.

General comments

All companies permit download of raw data file; all companies permit upload of data into GEDmatch (a third-party website; we will discuss this at a later session).

All companies will store the DNA sample indefinitely; FT-DNA specifies a minimum storage term of 25 years.

All companies except Geneanet provide biogeographical analysis, aka ethnicity estimate.

All companies accept upload of GEDcom file (tree) except 23 and Me.

All companies utilize some version of the Illumina chip, which is customized to each company, with the exception of Living DNA, which uses the Affymetrix Axiom microarray (Sirius) chip.

Primary source of information

ISOGG chart - - Autosomal DNA testing comparison chart

https://isogg.org/wiki/Autosomal_DNA_testing_comparison_chart

Strategies

If funds are limited, start by testing with AncestryDNA first, then transfer your raw DNA data file into Family Tree DNA, MyHeritage DNA, Living DNA, and Geneanet for free, or for a modest transfer fee. Depending on your initial matching success in these popular databases, you can then consider further testing or upgrades (e.g., test at 23 and Me; upgrade Family Finder at FT-DNA from a transfer to a full test; consider a Y-DNA test for males with unknown paternity; consider mtDNA if needed to confirm maternal relationships, also at FT-DNA. You may decide to add a full subscription to one or more of these sites in order to obtain additional tools and resources.

The best DNA test that YOU can take will be one that will help answer your questions.

Do you want to learn more about your ethnicity? Test with a company that offers the most detailed look at your expected ethnic regions. For people with European ancestry, Ancestry DNA and 23 and Me are good options.

Do you want to find birth relatives? Test where your biological relatives may also be testing (in the U.S., that's most likely AncestryDNA or 23andMe; in the British Isles, Living DNA; in other areas globally, it could be MyHeritage or AncestryDNA).

Do you want to build your family tree by networking with others with common ancestry? Choose a testing company with strong tools for tree-building and exploring your matches (that's AncestryDNA or MyHeritage). If you're likely to find cousins in the U.S., start with AncestryDNA; in other parts of the world, consider both MyHeritage and AncestryDNA.

Source of this information

Your DNA Guide - - Diahna Southard

<https://www.yourdnaguide.com/ydgblog/best-dna-tests-ancestry>

There's not one-answer-best-fits-everyone for DNA testing. Create a DNA testing plan so you'll spend your money wisely—and you'll be more likely to find answers.

Send questions and comments regarding DNA SIG meetings to facilitators at:

staff@scgensoc.org

attention: Gail - - or - - attention: Maria

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