Fish in More DNA Ponds

Don Worth
worth@ucla.edu
2/18/2023

1

Why Fish in More Ponds?

- Different matches, different ethnicity reports, different tools
- Broader collaboration in more geographical locations
- Some matches are more responsive on other sites
- More cousin bait (trees)
- Transferring is usually FREE

2

Does NOT Accept Transfers

- Ancestry.com
- 23andMe.com

Must buy a test
Both will export raw data files

3

Accepts Transfers

- MyHeritage.com
- FamilyTreeDNA.com
- LivingDNA.com
- GEDmatch *
- Geneanet *
- Geni.com (one-tree) *

  * Transfers only, does not test
  Some data may be from specialized testing companies

4

Not Recommended

- **Genomelink.io**
  - **Does not test, traits only, no ethnicity or matching**
- **Wegene**
  - **Based in China, poor ethnicity elsewhere, must pay $32 to transfer**
- **mytrueancestry.com**
  - **Does not test, ethnicity only, no matching, sketchy science**

5

Which Raw Data File Should I use?

If you tested more than once, general suggestions:

- **Won't matter for closer matches**
- **Use a recent test (GSA chip)**
- **Use Ancestry (most popular)**
- **Think about SNP overlap**
- **Make a "Super Kit"**

6

Testing SNPs

BASE PAIRS

- **3.2 BILLION Base Pairs**
- **4-5 MILLION SNPs ***
- **~700 THOUSAND tested**

* Single Nucleotide Polymorphism

7

SNP Overlap

Autosomal SNPs	23 v2	23 v3	23 v4	23 v5	Anc v1	Anc v2	FTDNA v1	FTDNA v2	LivDNA v1	LivDNA v2	MyHer v1	MyHer v2
23andMe v2	556,781	527,959	453,736	98,965	310,586	300,977	317,521	125,454	102,037	244,842	315,179	125,906
23andMe v3	527,959	930,356	510,550	177,138	659,830	450,367	681,863	220,154	177,455	314,836	677,270	214,940
23andMe v4	453,736	510,550	585,327	108,248	300,373	300,923	305,626	137,380	108,786	254,074	304,948	134,750
23andMe v5	98,965	177,138	108,248	613,462	159,881	155,163	162,100	538,746	585,639	394,732	161,529	504,668
Ancestry v1	310,586	659,830	300,373	159,881	682,549	426,760	680,544	207,661	163,476	282,607	676,049	204,740
Ancestry v2	300,977	450,367	300,923	155,163	426,760	636,942	432,423	191,769	156,931	267,813	431,431	185,754
FTDNA v1	317,521	681,863	305,626	162,100	680,544	432,423	707,254	212,252	165,742	284,132	702,440	208,221
FTDNA v2	125,454	220,154	137,380	538,746	207,661	191,769	212,252	610,832	541,654	385,521	211,907	561,788
LivingDNA v1	102,037	177,455	108,786	585,639	163,476	156,931	165,742	541,654	603,129	401,315	165,159	508,732
LivingDNA v2	244,842	314,836	254,074	394,732	282,607	267,813	284,132	385,521	401,315	683,503	283,253	386,023
MyHeritage v1	315,179	677,270	304,948	161,529	676,049	431,431	702,440	211,907	165,159	283,253	702,442	207,848
MyHeritage v2	125,906	214,940	134,750	504,668	204,740	185,754	208,221	561,788	508,732	386,023	207,848	576,690

https://isogg.org/wiki/Autosomal_SNP_comparison_chart

23andMe V1 Nov 2007 (not reported) FTDNA V1 Feb 2011
23andMe V2 Sep 2008   **FTDNA V2* Mar 2019**
23andMe V3 Nov 2010   **LivingDNA V1* Sep 2016**
23andMe V4 Nov 2013   LivingDNA V2 Oct 2018
23andMe V5* Aug 2017   MyHeritage V1 Nov 2016
Ancestry V1 May 2012   **MyHeritage V2* Mar 2019**
Ancestry V2 May 2016

* newer GSA chip, LivingDNA V2 is AffyMetrix, all others OmniExpress (Illumina)

Why So Many Chips?

- Some companies wanted to add medical SNPs
- Illumina transitioning to GSA
- Chip customizations to deal with other/older chips

9

How to Deal With SNP Overlap?

- Imputation by recipient helps
- GEDmatch displays overlap quality at segment level
- Test at LivingDNA and use their raw data file for transfers

10

Super Kits

Not for the faint of heart!

- GEDmatch Tier 1 (no download!)
- DNA Kit Studio (Windows)
- Manually using a spreadsheet

Mostly does not add new matches but eliminates false matches

https://www.beholdgenealogy.com/blog/?p=2717
https://www.dnagenics.com/dna-kit-studio/

11

Consider Retesting

- Ideal SNP overlap with others in that database
- Gain access to additional features
  - Eg. LivingDNA British Isles ethnicity reports & Viking DNA report
- May give you a more compatible raw data file for future transfers (GSA or LivingDNA)

12

Comparison of Web Sites with Autosomal-DNA Matching Databases

Site	Allows uploading autosomal-DNA data	Allows uploading Gedcom files	Provides ethnicity estimates	Provides shared matches	Provides Chromosome Browser	Provides family trees	Allows downloading autosomal-DNA data	Allows downloading Gedcom files
Ancestry	No	Yes	Yes	Yes	No	Yes	Yes	Yes
23andMe	No	1	Yes	Yes	Yes	2	Yes	No
MyHeritage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FamilyTree DNA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LivingDNA	Yes	No	Yes	Yes	No	coming	Yes	No
GEDmatch	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Geneanet	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Geni.com	Yes	Yes	3	3	3	Yes	3	Yes

1. Allows adding a URL from another site.

2. In general, there is no sharing of family trees, except for links to external sites. However, you have the option to share your family tree with others.

3. Available through partner Web sites.

Nebula Genomics – Whole Genome Testing & reports only, no matching database

Ancestry.com

- **Largest database**
- **Many matches have trees**
- **ThruLines DNA/tree matching**
- **Separation of matches by parent**
- **Subscription required for some features**
- **Does not accept transfers**
- **No chromosome browser**

14

23andMe.com

- **Medical reports**
- **Large database**
- **Excellent ethnicity reports**
- **Tests on GSA chips**
- **Chromsome browser with access to match's data**
- **No trees**
- **Does not accept transfers**

15

Family Tree DNA

- **Autosomal, Y-DNA, and mtDNA all under one roof**
- **More matches are interested in genealogy, emails provided**
- **Chromosome browser**
- **Better tools for experts**
- **Some trees**

16

MyHeritage.com

- Based in Europe & US
- DNA/Tree matching (Theory of Relativity)
- Chromosome browser
- Tests on GSA chips
- Subscription for some features
- Accepts transfers

17

GEDmatch.com

- Clearinghouse for tests from all companies
- Highly sophisticated tools
- Can upload GEDCOM files
- Accepts transfers but does not offer testing
- Subscription for more advanced tools (Tier 1)

18

LivingDNA.com

- Based in Somerset, England (more UK matches)
- Excellent British Isles ethnicity reports, Viking report
- Tests on highly compatible chips
- Tree builder coming "soon"
- Accepts transfers
- Demonstration

19

Geneanet.org

- Based in Paris, France (more European matches)
- Chromosome browser
- Accepts GEDCOM uploads
- Accepts transfers but does not offer testing
- Demonstration

20

Geni.com

- **Owned by MyHeritage**
- **One-tree model**
- **Subscription for additional features**
- **Links to Family Tree DNA kits and to its "World Tree"**
- **Demonstration**

21

Nebula.org

- **Whole Genome Sequencing**
- **Requires membership subscription for their tests**
- **Accepts transfers for free traits**
- **Ethnicity & Traits (No genealogy matching database)**
- **Useful for making Super Kits?**
- **Demonstration**

22

mitoYDNA.org

- **The "GEDmatch" for Y-DNA and mtDNA results**
- **Successor to Y-Search and mitoSearch**
- **Includes tests not performed at FTDNA (eg. Ancestry, SMGF)**
- **Mags Gaulden in October**
- **Demonstration**

23

Questions? Comments?

24