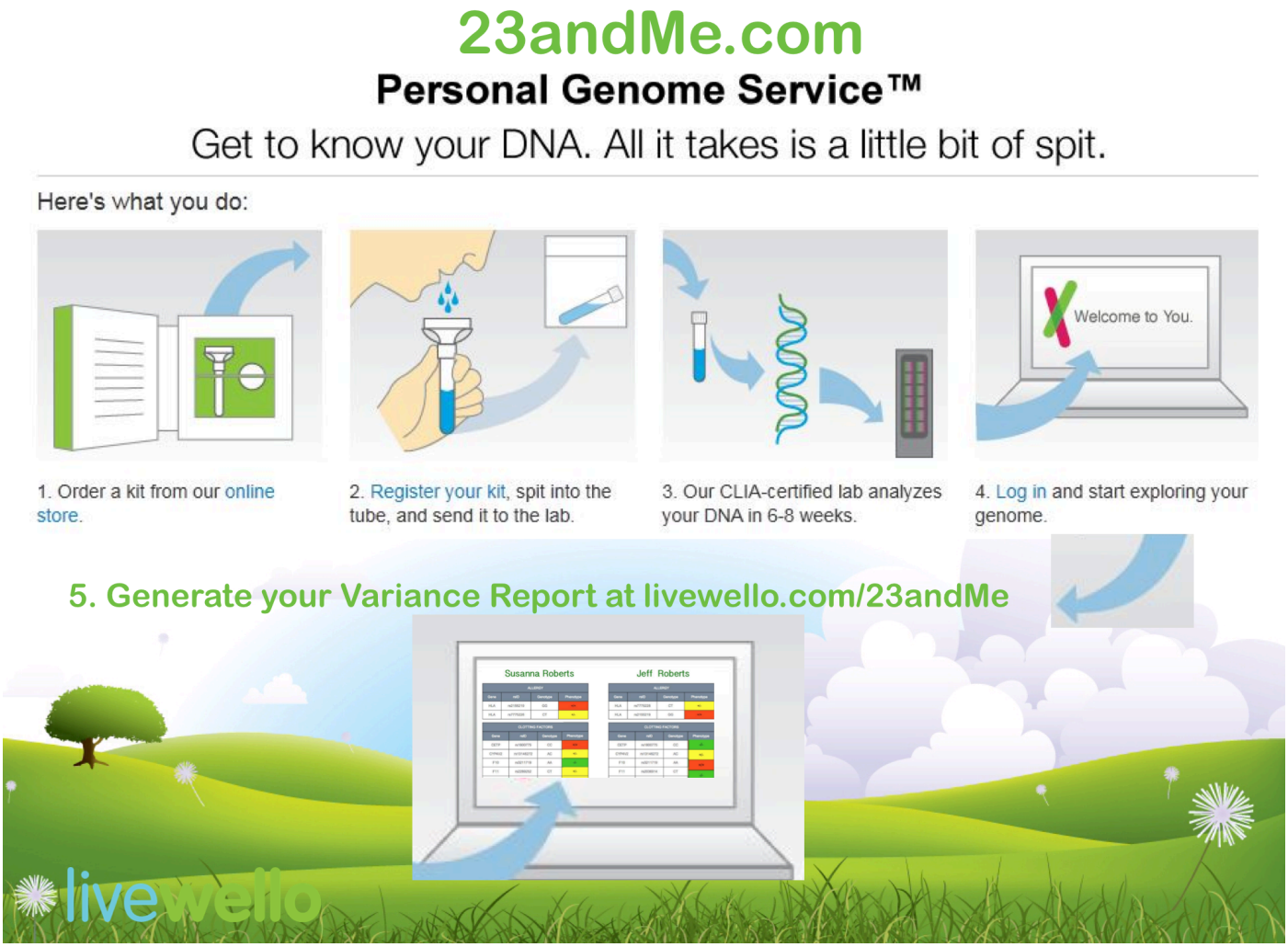
Everything You Ever Needed to Know About What To Do with Your 23andMe Raw Data Results



You will need to generate a Report from your 23andMe Raw Data result. To do so go to: https://livewello.com/23andMe

Why is Livewello's 23andMe Gene App your best option?

https://docs.google.com/a/livewello.com/document/d/1nUpt9mYHTFIyc_ZTgGm2Sap-zI_9ArsCOEf-G5lXzKI/

Video about how to generate your 23andMe Raw Data report securely:

https://vimeo.com/83797705

A Sample Standard Livewello 23andMe Gene Report: https://livewello.com/connect/gene-app/demo

Remember this is just the Standard report. Livewello's Gene App also allows you to get your report with up to 297,000 SNPs (This is the actual number of SNPs in your 23andMe Raw Data result).

What to do after receiving your 23andMe Gene Results

[This document also contains Learning Video and Reading resources on Page 8]:

https://docs.google.com/document/d/1PJYJhIdXCtIoLzx-NKmIq5AqDVSYVzoGGIXIxxGP9IE/edit?usp=sharing

Frequently Asked Questions about the Livewello 23andMe Gene App:
https://docs.google.com/document/d/1bUf2Sw2IWOLAHKEHpDckm70Y2d-wvz9WxtQHBFrIsAk

Links to Get Customer Service and Tech Support From 23andMe:
https://docs.google.com/a/livewello.com/document/d/1euoJXwIzurbDwIcqpUf6_FxBHJZOo6_c83nEYrimne8

Support Group to Ask Questions about your 23andMe Raw Data:

https://m.facebook.com/groups/581889231904301?__user=100001600189727

How to Preserve the Security and Privacy of your Genetic Information:
https://docs.google.com/document/d/1YEqOLCi8gsUIpeTM6mKaOqS5vJuGNTr3PF1eCw2wFIY/edit?usp=sharing

Is it still possible to order and use the 23andMe Gene Test?
https://docs.google.com/a/livewello.com/document/d/1hPID2rsv0iUN2daSXajUe00O5Albm1tnB1KjbItH7_8

About Livewello's SNP Sandbox tool (It is free with your Livewello Gene App):
https://docs.google.com/document/d/1IrRpSqjVjPyIUZ8bJvndF9u69YpiukfZvSXVUEvrT6E/edit?usp=sharing

Livewello's SNP Library (Lots of SNP Tables added by other Livewello users & categorized by disease. Free to Livewello users Click on any link to generate your own results): https://livewello.com/snps/library

How to Use the Livewello SNP Template Library: https://vimeo.com/87970578

How to Search the Livewello SNP Library for other SNP Collections: https://vimeo.com/87980392

How to Create A Custom SNP Table: https://vimeo.com/82496316

Livewello's SNP Sandbox Intro Video: https://vimeo.com/76167840

Livewello Video Tutorials: http://vimeo.com/livewello

Health Practitioner Directory & FAQ: https://livewello.com/practitioner

Download the free Health Management Mobile App for your iPad or iPhone:
http://bit.ly/RocPhA
Video about how the mobile Health Management App works: https://vimeo.com/50937301
(Don't have an iPhone/iPad? You can still use Livewello online at: https://Livewello.com/

More Questions? Email us: support@livewello.com

For up-to-date App information, Click "Like" and "Get Notifications":https://facebook.com/livewello

Direct link to this document: Everything You Ever Needed to Know About What To Do with Your 23andMe Results:
https://docs.google.com/document/d/1gpsKey8mCkYfuvy8Lhd4oIXkru4qum0LJmDB3l3JDno

Why Do My 23andMe results on different Variant Apps Differ? http://bit.ly/1jGMprx

Trying to decide which App is best for your 23andMe Raw Data? Use this list as a guide: The following are all the FREE Features that come with your Livewello Gene App:

1. A Standard 300 SNP Report
A Sample Standard Livewello 23andMe Gene Report: https://livewello.com/connect/gene-app/demo
[This is just the Standard report. Livewello's Gene App also allows you to get your report with up to 297,000 SNPs which is the actual number of SNPs in your 23andMe Raw Data result].

2. FREE and Unlimited Access to the NEW Livewello SNP Sandbox tool:
https://docs.google.com/document/d/1IrRpSqjVjPylUZ8bJvndF9u69YpiukfZvSXVUEvrT6E/edit?usp=sharing
With this feature, you can now add up to 297,000 SNPs of YOUR CHOICE to your Report. No more waiting for App updates to add SNPs to your Report.

How to Create A SNP Template: https://vimeo.com/82496316

3. FREE SNP Sandbox Library https://livewello.com/SNP-templates
A convenient library of tables of SNPs created by other Livewello users.
1-Click generates your Variance Report. Here is how:
https://docs.google.com/document/d/1IrRpSqjVjPylUZ8bJvndF9u69YpiukfZvSXVUEvrT6E/edit?usp=sharing
This is an example of a Livewello user's shared SNP Template using Livewello SNP Sandbox: Histamine Template (HNMT SNPs): https://livewello.com/connect/sandbox-template-294/florence

4. The ability to compare and view 2 Gene Reports side by side. Great for family members: https://vimeo.com/86789213
Convenient "Report Sharing" Features: https://vimeo.com/86825509

5. Access to Comprehensive 1-Click Research tools like PubMed, Ensembl, Google Scholar, SNPedia and YOUR 23andMe Gene Browser

6. A "Notes" tab that allows you to add notes to your individual SNPs and save any information you learn about them along the way. Tutorial: https://vimeo.com/m/73728321

7. An array of Lab tools to help you manage other aspects of your Chronic health issues, because your journey to good health will likely be complex: https://Livewello.com/data-apps

8. A free Livewello Health Management App from the IOS App Store. You can still use Livewello online.

9. A complimentary, user-edited Health Practitioner Directory: https://livewello.com/practitioner

10. App updates that are always FREE and Automatic! Keep an eye on these updates by joining us at https://facebook.com/livewello

11. Software Security and Privacy:
https://docs.google.com/document/d/1YEqOLCi8gsUIpeTM6mKaOqS5vJuGNTr3PF1eCw2wFIY/edit?usp=sharing

Frequently Asked Questions about the Livewello 23andMe Gene App:
https://docs.google.com/document/d/1bUf2Sw2IWOLAHKEHpDckm70Y2d-wvz9WxtQHBFrIsAk

More questions? Email support@livewello.com We work towards responding within an hour during business hours. We wish you the very best in your health journey.

What should I do after receiving my 23andMe Gene Results?

[Please Note: This advice also applies to those who have run their reports using Ancestry.com and Family Tree DNA]

1. Generate your Gene Variance Report: https://livewello.com/genetics

The Livewello App will still generate your Variance report using your Raw Data:
https://docs.google.com/a/livewello.com/document/d/1hPlD2rsv0iUN2daSXajUe00O5Albm1tnB1KjbItH7_8
Download your 23andMe Raw Data from this link: https://www.23andme.com/you/download/

Why is the Livewello Gene App your best option?
https://docs.google.com/a/livewello.com/document/d/1nUpt9mYHTFIyc_ZTgGm2Sap-zI_9ArsCOEf-G5lXzKI/

View a Sample Livewello 23andMe Gene Report: https://livewello.com/connect/gene-app/demo
(You'd need to get a free Livewello account to view it).
Remember this is just the Standard report. Livewello's Gene App comes with the **SNP Sandbox tool** which can be used to generate Gene reports. **As long as a SNP is in your Raw Data, with the Minor Allele and rsID, Livewello will generate a Gene Report with it, for you.**

Links to Get Customer Service and Tech Support From 23andMe:
https://docs.google.com/a/livewello.com/document/d/1euoJXwIzurbDwIcqpUf6_FxBHJZOo6_c83nEYrimne8

Frequently Asked Questions about the Livewello 23andMe Gene App:
https://docs.google.com/document/d/1bUf2Sw2IWOLAHKEHpDckm70Y2d-wvz9WxtQHBFrIsAk

How To Preserve and Secure the Privacy of your Genetic information
https://docs.google.com/document/d/1YEqOLCi8gsUIpeTM6mKaOqS5vJuGNTr3PF1eCw2wFIY/edit?usp=sharing

Everything You Ever Needed to Know About What To Do with Your 23andMe Raw Data Results:
https://docs.google.com/document/d/1gpsKey8mCkYfuvy8Lhd4oIXkru4qum0LJmDB3l3JDno

2. After generating your Livewello Gene Report, work with a licensed and experienced Health Practitioner:

- If you do not have one, go to this complimentary, user-edited Directory: https://livewello.com/practitioner

Click on the 'Send Email to this Practitioner' link. Then send them questions to see if they match your needs.

- When you find one, encourage your Practitioner to read this **Practitioner Information**.

3 . Learn how your Livewello Gene Report works:

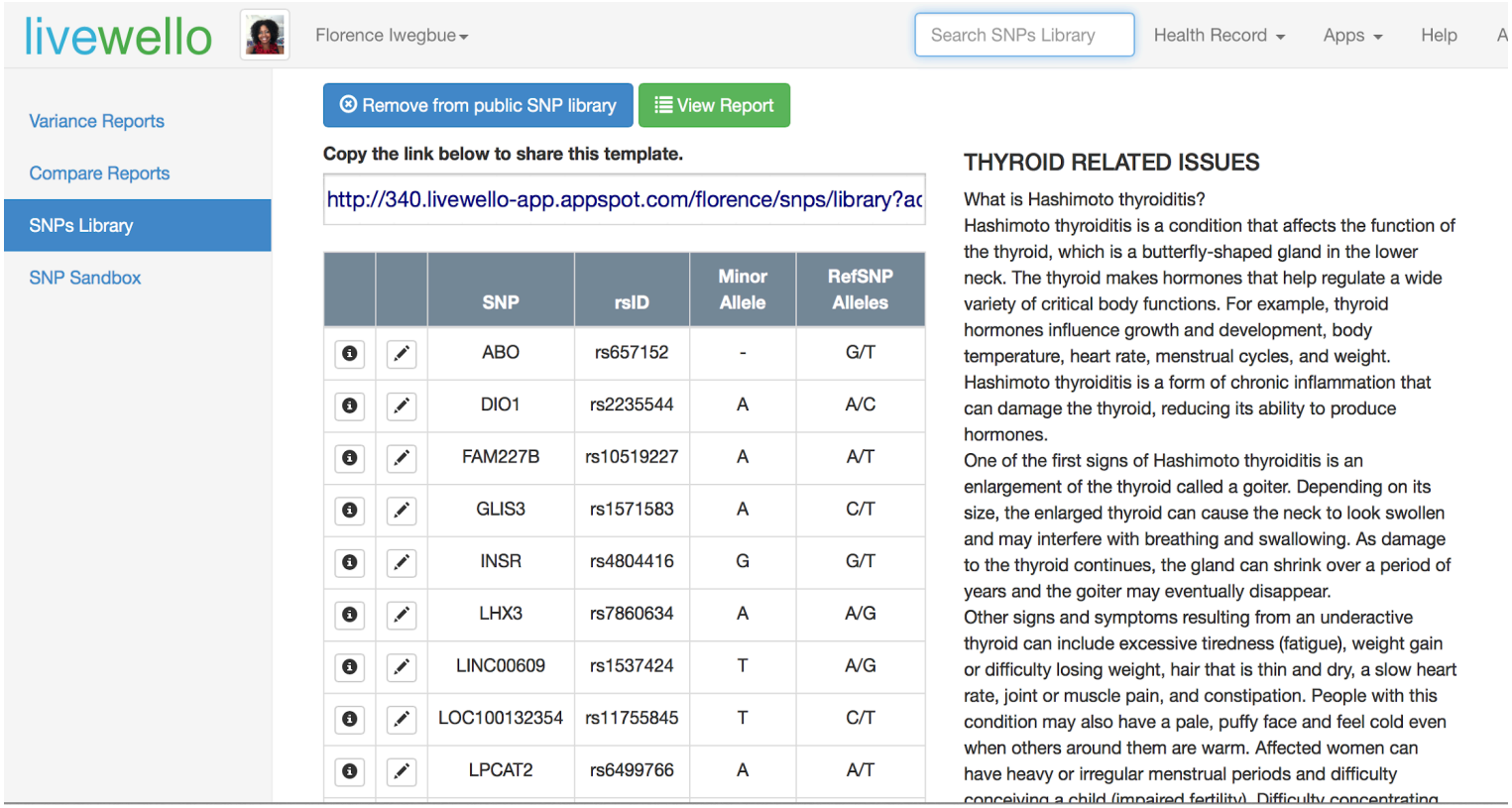
Your Livewello Gene App comes with the following FREE Features:

a. A Standard 300 SNP Report
A Sample Standard Livewello 23andMe Gene Report: https://livewello.com/snps/share?for=martin.dawson.606
[This sample report contains only about 300 SNPs (Genes) out of the thousands that your LiveWello App provides. With the App, you will be able to generate your report with much more Genes and learn about the diseases and symptoms associated with those Genes]

b. FREE and Unlimited Access to the NEW Livewello SNP Sandbox tool. **Click Here For How it works:**
With this feature, you can choose which SNPs to add to your Report. A report can be created based on a Health condition or a Gene name. You no longer have to wait for App updates to add SNPs to your Report. You now have the power to find out more about SNPs that are not included in the average Standard Report. **As long as a SNP is in your Raw Data, with the Minor Allele and rsID, Livewello will generate a Gene Report with it, for you.**

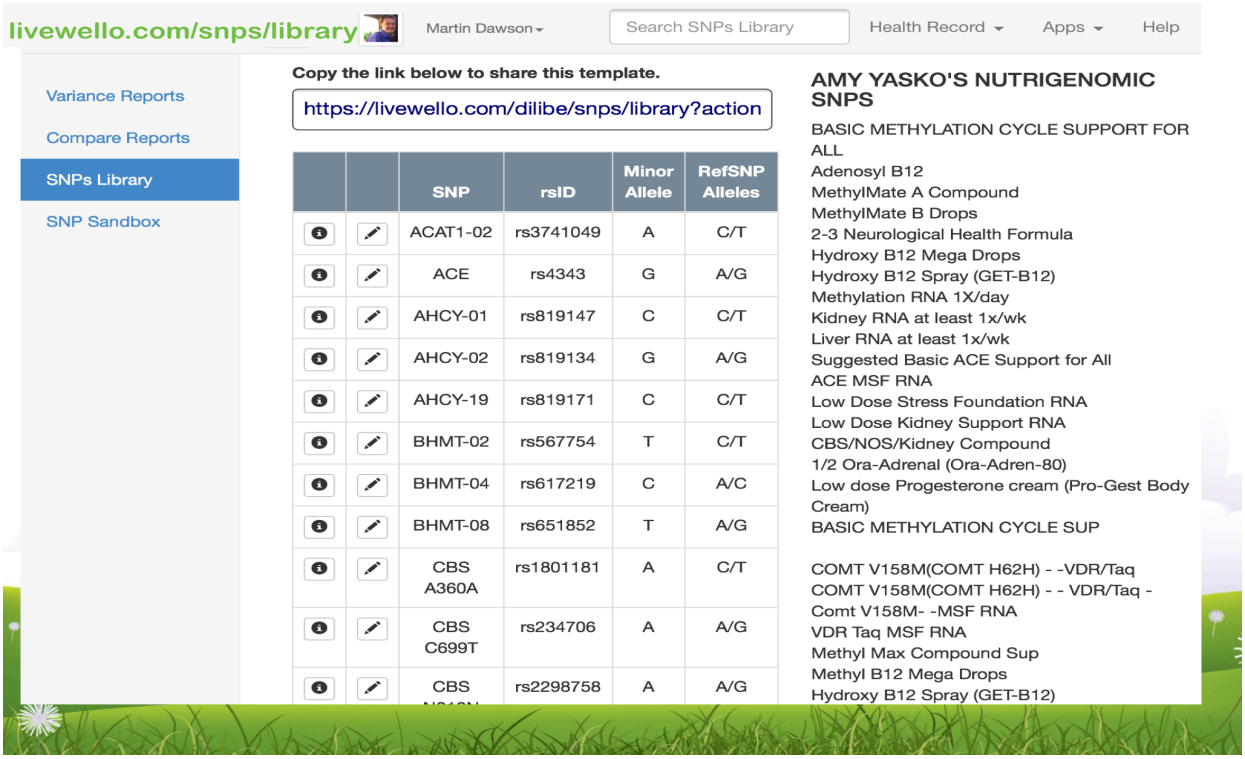
Use the Livewello SNP Sandbox tool, to create a custom Gene Report based on a particular health condition or a Gene. Otherwise, use one of the ones in the SNP Library that have been shared by fellow users.

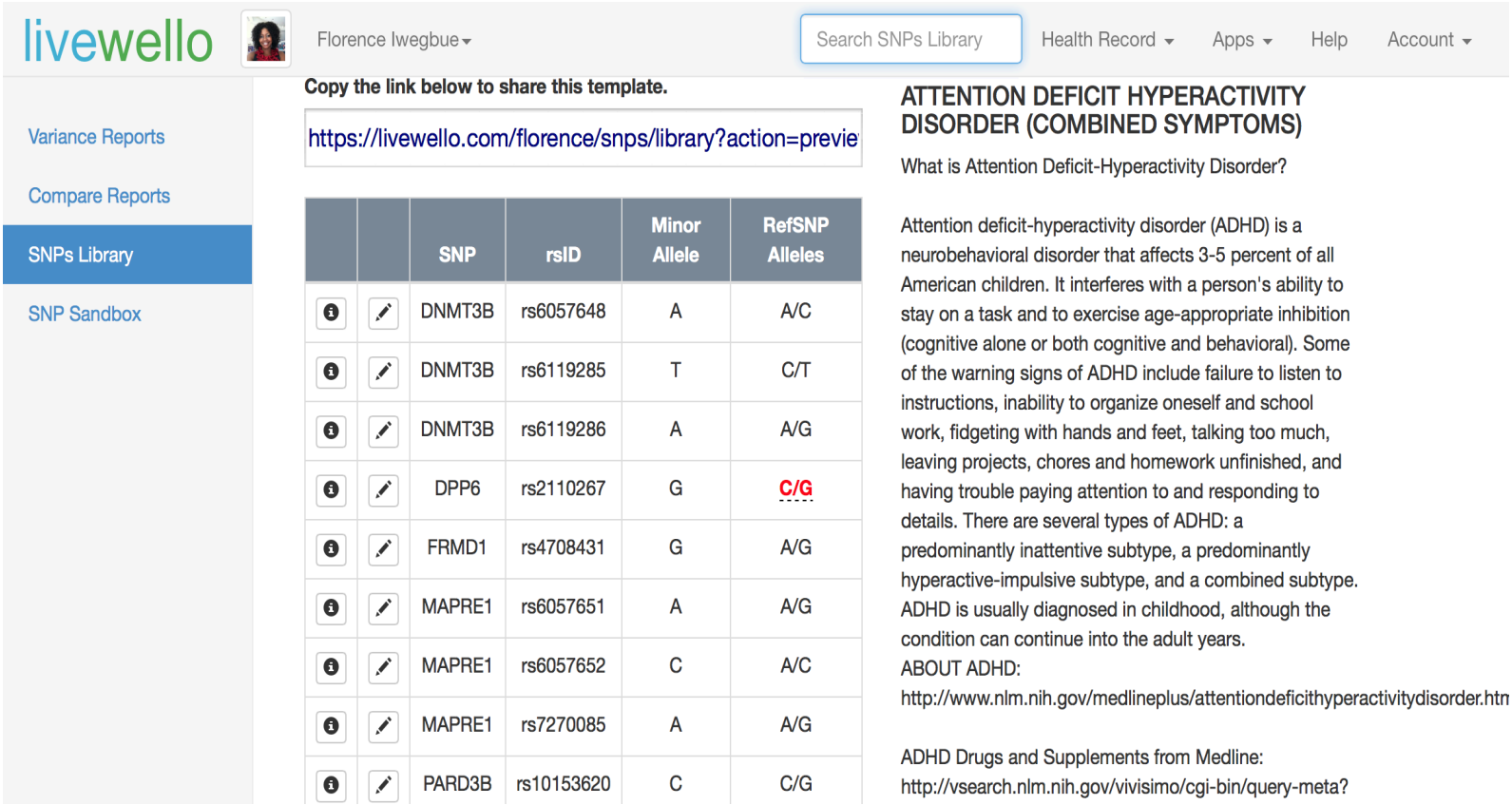
How to Create A SNP Template: https://vimeo.com/82496316
Intro Video About Livewello SNP Sandbox: http://vimeo.com/m/76167840 (New Features added since this video was made)



c. FREE SNP Sandbox Library **https://livewello.com/snps/library** Visit the library to view samples.

NEW Livewello Gene App Feature Added: SNP Templates Library
A Library containing ALL SNP Templates shared by Livewello Users.

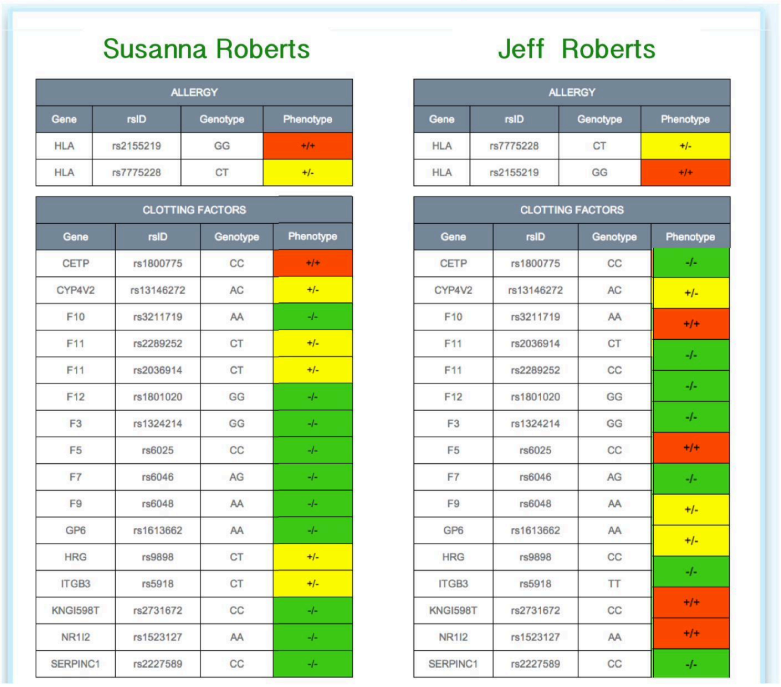




d. FREE Compare Report Feature: Your Livewello Gene App allows you to compare and view 2 Reports side by side: https://vimeo.com/86789213

Auto-Copy SNP Sandbox template to other profiles in your account

NEW Livewello Gene App Features Added!!!
Compare 2 SNP Sandbox Reports side by side.



Susanna Roberts

ALLERGY			
Gene	rsID	Genotype	Phenotype
HLA	rs2155219	GG	+/+
HLA	rs7775228	CT	+/-

CLOTTING FACTORS			
Gene	rsID	Genotype	Phenotype
CETP	rs1800775	CC	+/+
CYP4V2	rs13146272	AC	+/-
F10	rs3211719	AA	-/-
F11	rs2289252	CT	+/-
F11	rs2036914	CT	+/-
F12	rs1801020	GG	-/-
F3	rs1324214	GG	-/-
F5	rs6025	CC	-/-
F7	rs6046	AG	-/-
F9	rs6048	AA	-/-
GP6	rs1613662	AA	-/-
HRG	rs9898	CT	+/-
ITGB3	rs5918	CT	+/-
KNG1598T	rs2731672	CC	-/-
NR1I2	rs1523127	AA	-/-
SERPINC1	rs2227589	CC	-/-

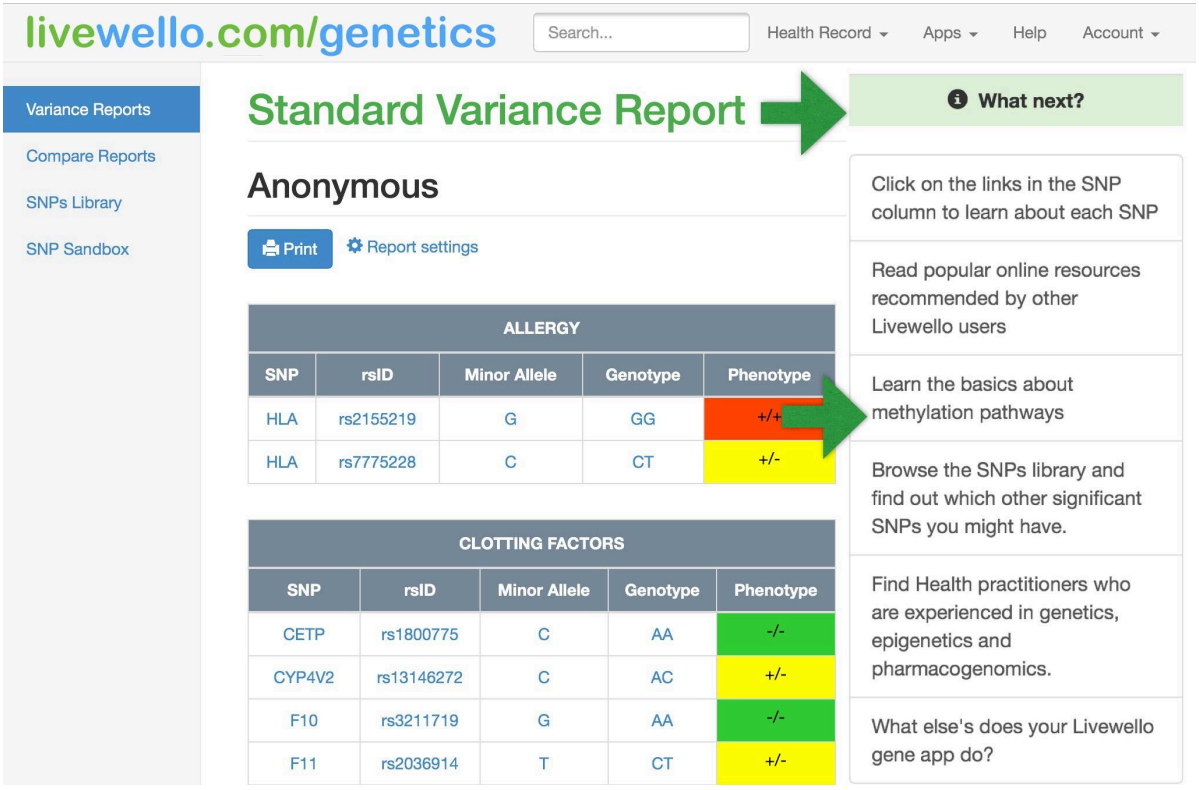
Jeff Roberts

ALLERGY			
Gene	rsID	Genotype	Phenotype
HLA	rs7775228	CT	+/-
HLA	rs2155219	GG	+/+

CLOTTING FACTORS			
Gene	rsID	Genotype	Phenotype
CETP	rs1800775	CC	-/-
CYP4V2	rs13146272	AC	+/-
F10	rs3211719	AA	+/+
F11	rs2036914	CT	-/-
F11	rs2289252	CC	-/-
F12	rs1801020	GG	-/-
F3	rs1324214	GG	-/-
F5	rs6025	CC	+/+
F7	rs6046	AG	-/-
F9	rs6048	AA	+/-
GP6	rs1613662	AA	+/-
HRG	rs9898	CC	-/-
ITGB3	rs5918	TT	+/+
KNG1598T	rs2731672	CC	+/+
NR1I2	rs1523127	AA	+/+
SERPINC1	rs2227589	CC	-/-

livewello.com/23andMe

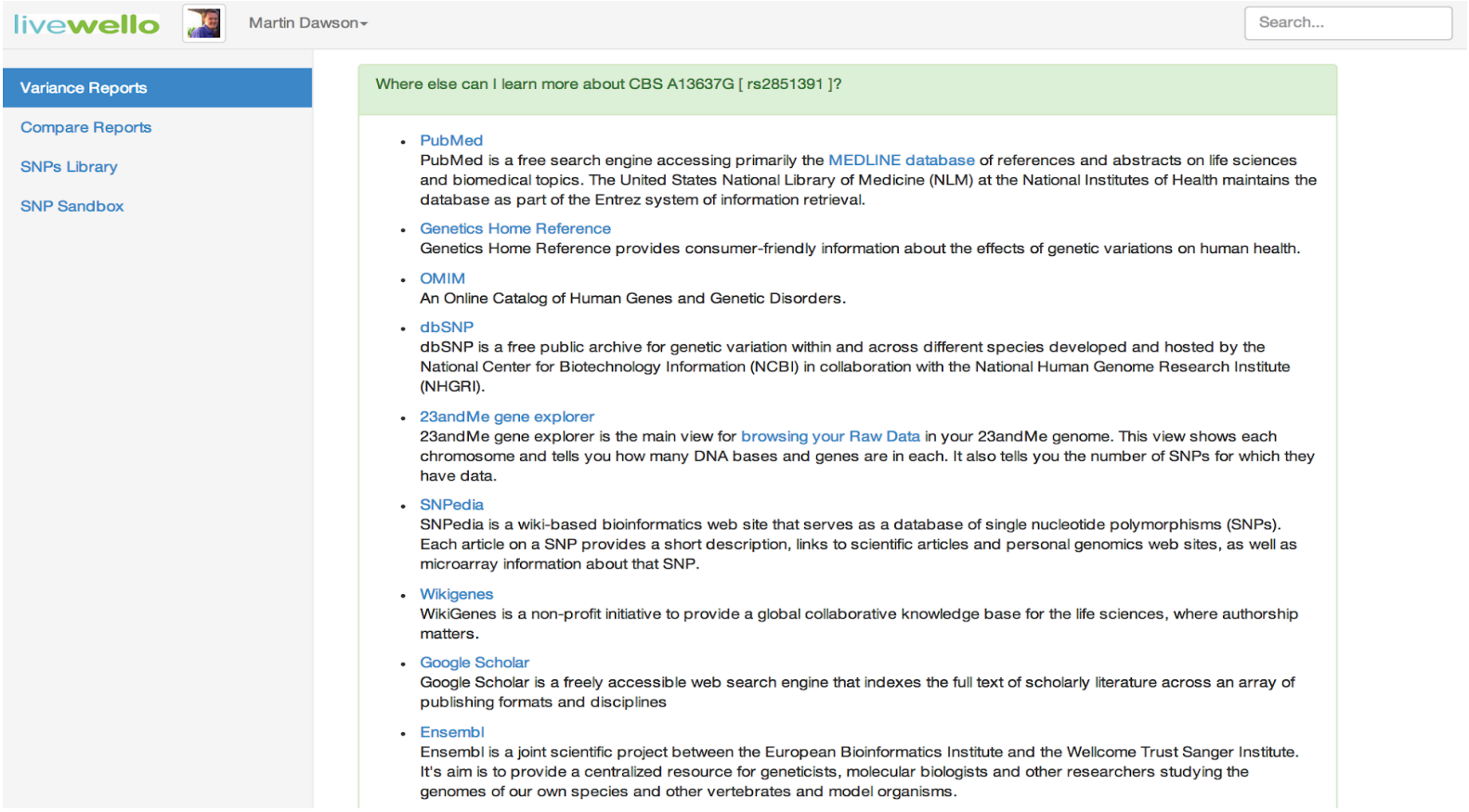
Did you know that there is a "What Next" panel on your Livewello Gene App?
It searches the web for answers to your questions about your Gene Report.



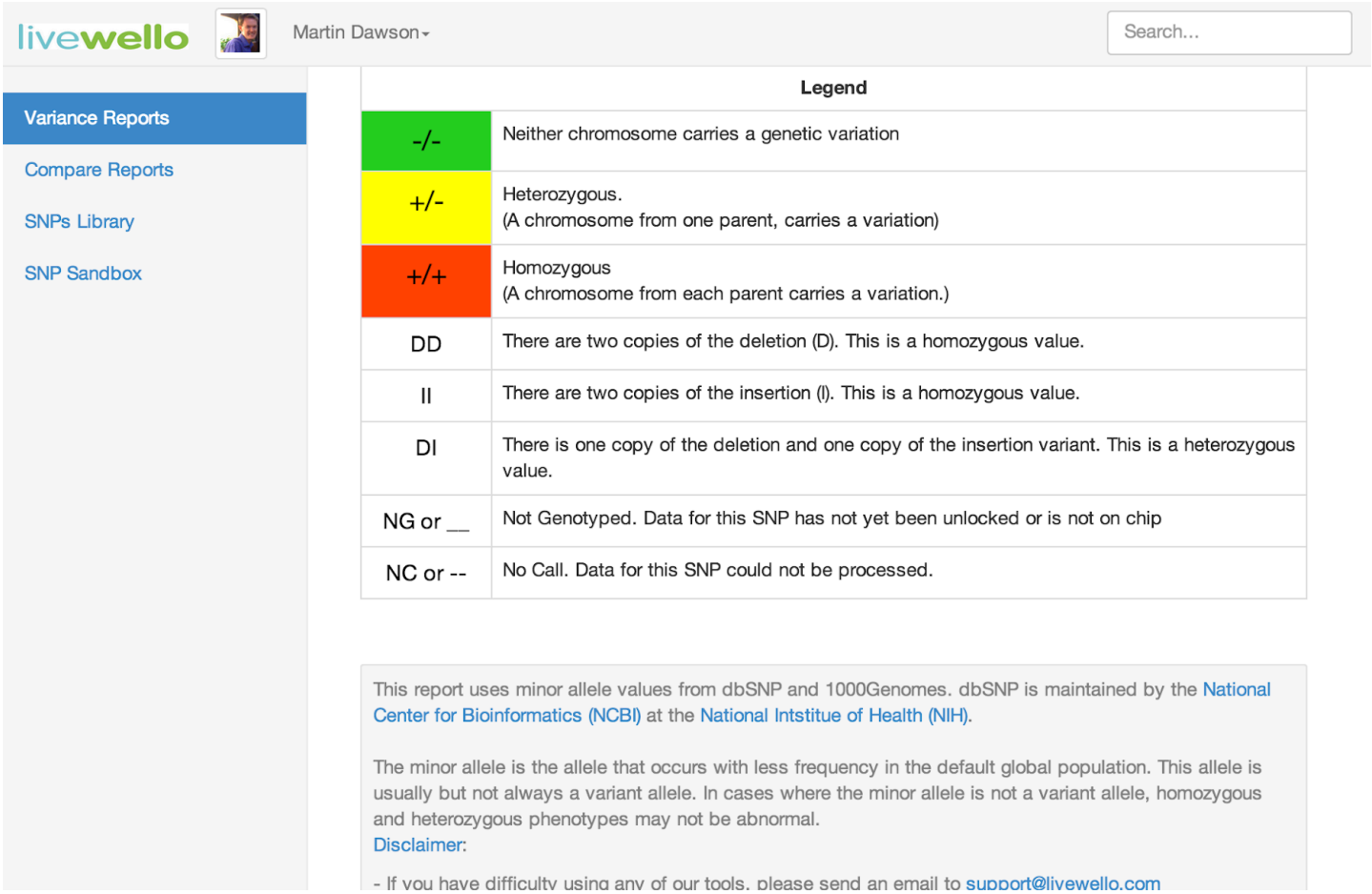
ALLERGY				
SNP	rsID	Minor Allele	Genotype	Phenotype
HLA	rs2155219	G	GG	+/+
HLA	rs7775228	C	CT	+/-

CLOTTING FACTORS				
SNP	rsID	Minor Allele	Genotype	Phenotype
CETP	rs1800775	C	AA	-/-
CYP4V2	rs13146272	C	AC	+/-
F10	rs3211719	G	AA	-/-
F11	rs2036914	T	CT	+/-

e. Access to Comprehensive 1-Click Resource tools like PubMed, Ensembl, Google Scholar, SNPedia Medline, Genetics Home Reference etc Explore the links in your Livewello Gene Report: https://vimeo.com/73068158



Livewello Gene Report Legend:



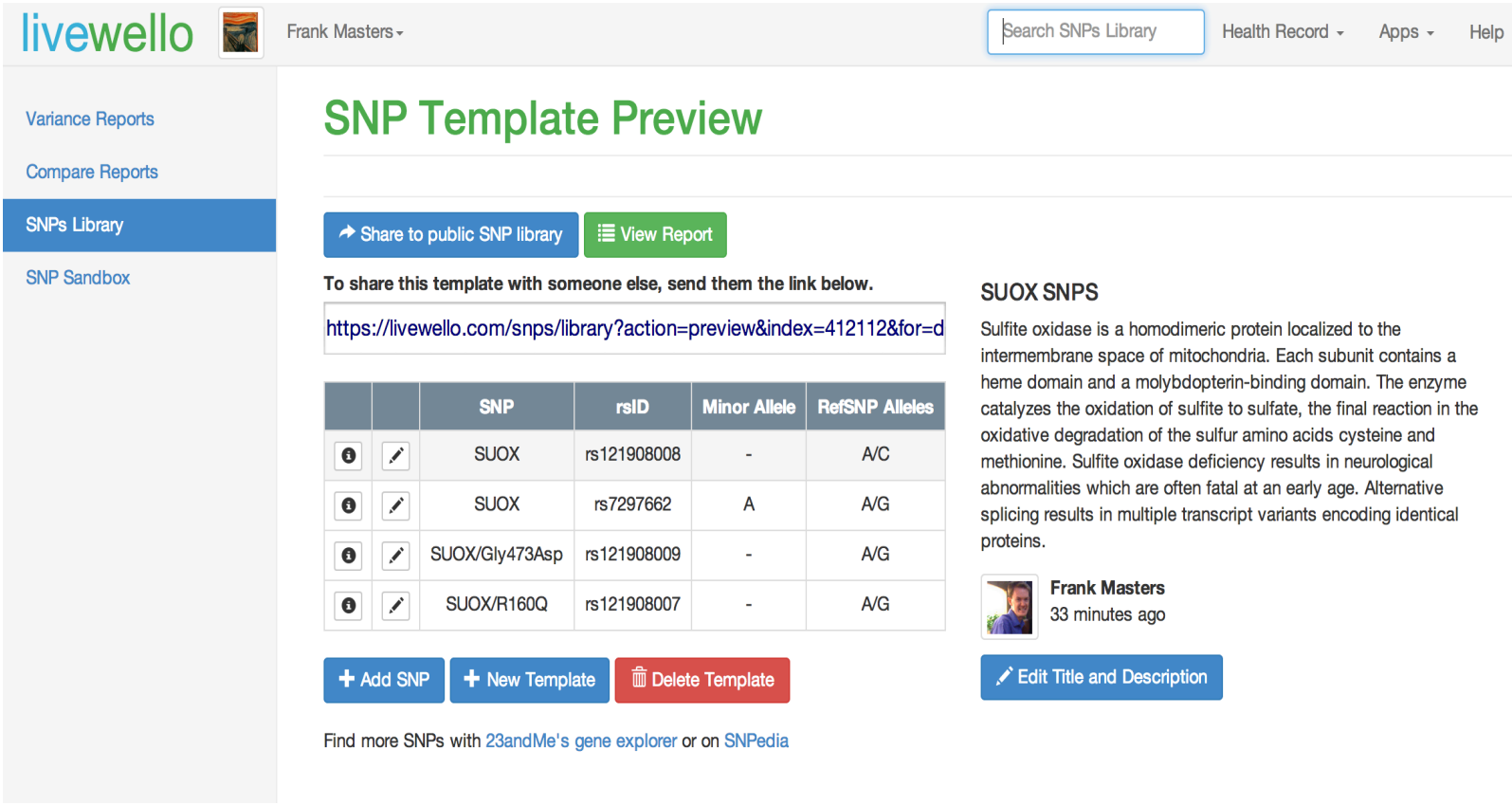
Legend	
-/-	Neither chromosome carries a genetic variation
+/-	Heterozygous. (A chromosome from one parent, carries a variation)
+/+	Homozygous (A chromosome from each parent carries a variation.)
DD	There are two copies of the deletion (D). This is a homozygous value.
II	There are two copies of the insertion (I). This is a homozygous value.
DI	There is one copy of the deletion and one copy of the insertion variant. This is a heterozygous value.
NG or __	Not Genotyped. Data for this SNP has not yet been unlocked or is not on chip
NC or --	No Call. Data for this SNP could not be processed.

This report uses minor allele values from dbSNP and 1000Genomes. dbSNP is maintained by the National Center for Bioinformatics (NCBI) at the National Intstitue of Health (NIH).

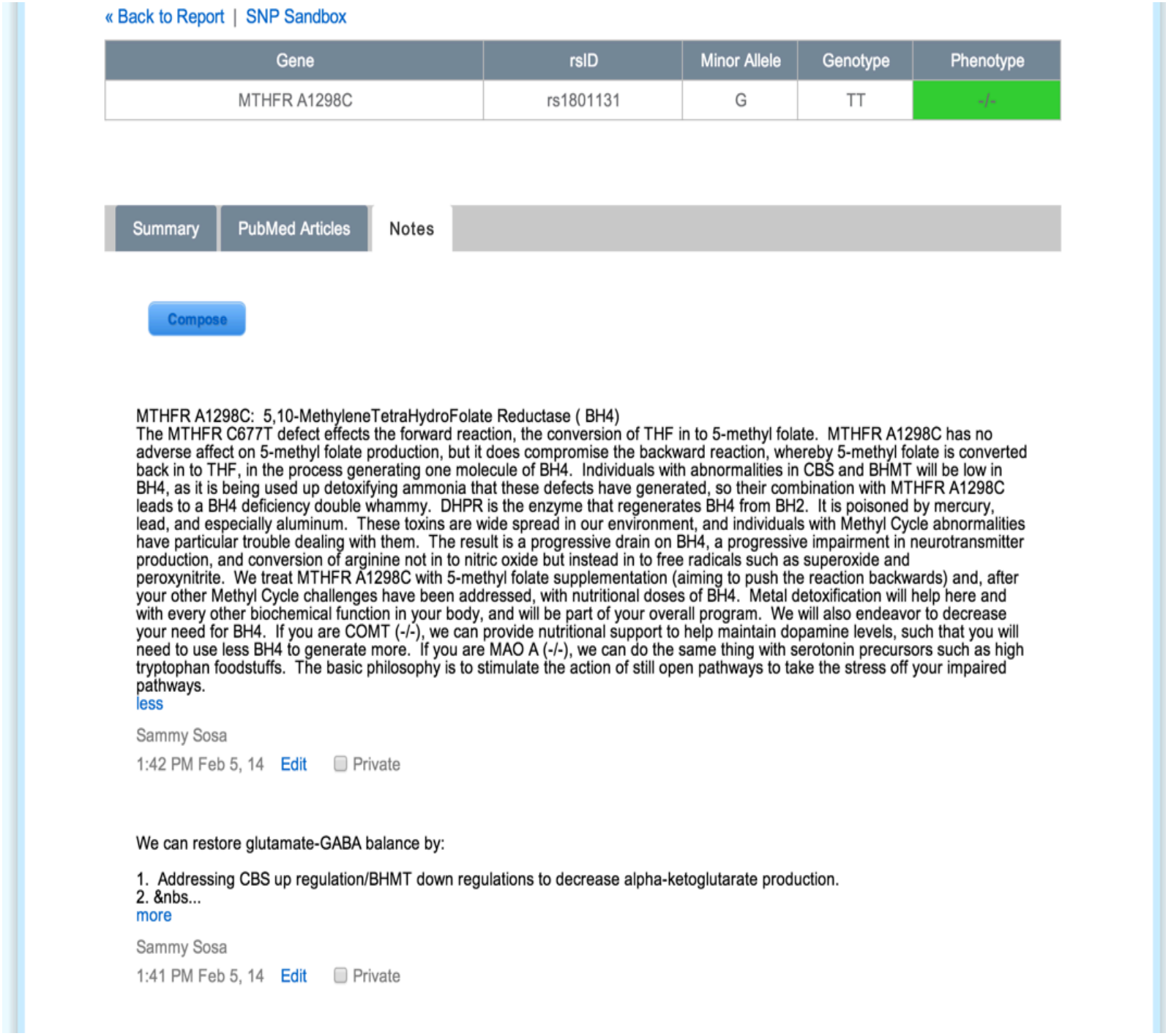
The minor allele is the allele that occurs with less frequency in the default global population. This allele is usually but not always a variant allele. In cases where the minor allele is not a variant allele, homozygous and heterozygous phenotypes may not be abnormal.
Disclaimer:

- If you have difficulty using any of our tools, please send an email to support@livewello.com

SAMPLE Gene specific SNP Template



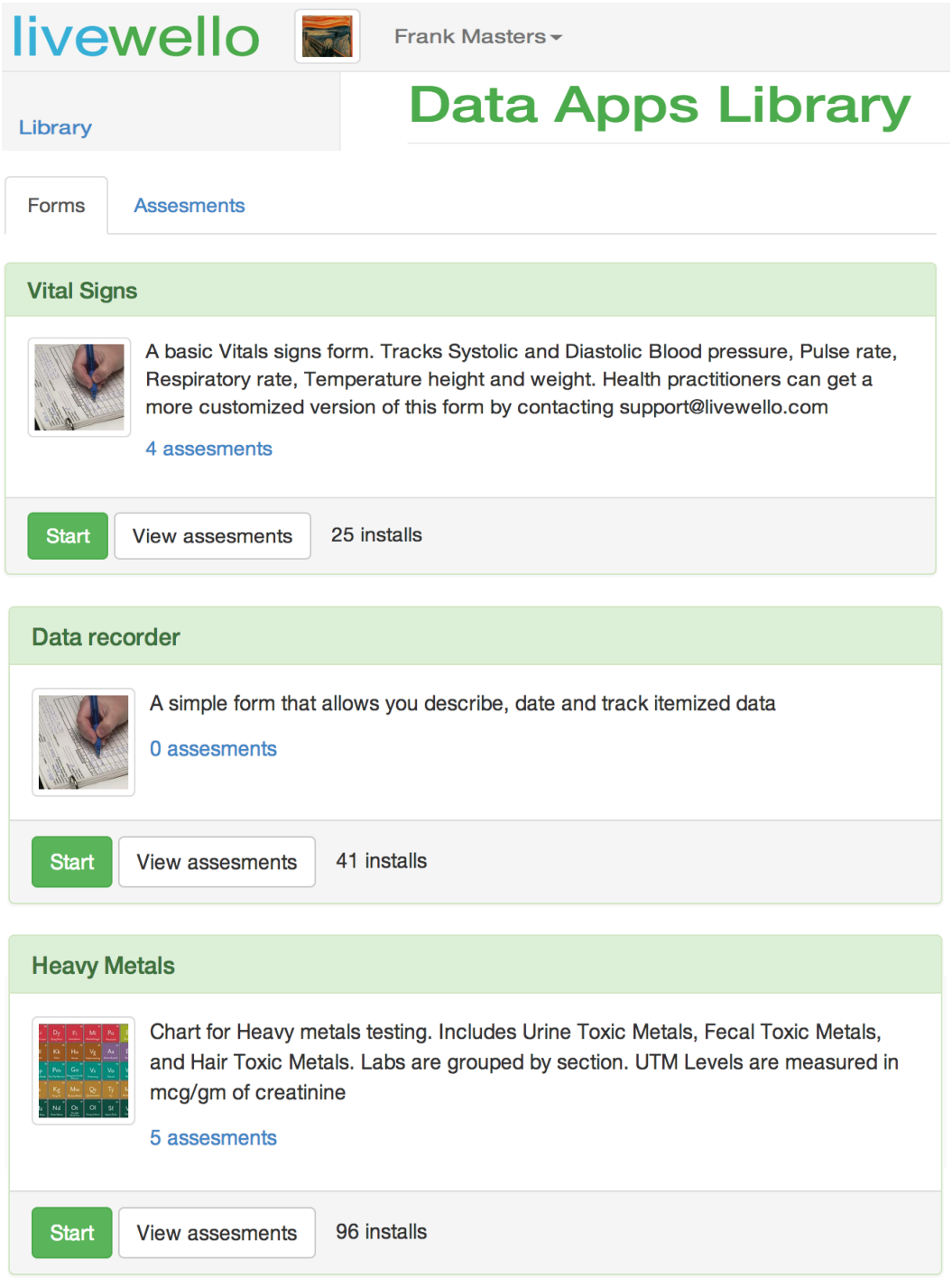
f. A "Notes" feature that allows you to add notes to your individual SNPs and templates, so you can save any information you learn about them along the way. Just click on that SNP or the "Edit" button in your report to add that information. Practitioners can use it to add SNP-Specific health advice for their patients.Video https://vimeo.com/m/73728321



g. A free Livewello Health Management App from the IOS App Store: http://bit.ly/RocPhA
You can still use Livewello online: https://Livewello.com

i. For quick answers, visit the Livewello Gene App's Frequently Asked Questions:
https://livewello.com/support

j. An array of Lab tools to help you manage other aspects of your chronic health issues, because your journey to good health will likely be complex: https://Livewello.com/data-apps



j. Lab tools to help you manage other aspects of your chronic health issues: https://Livewello.com/data-apps

livewello  Frank Masters

Library

Data Apps Library

Sleep Diary

Having trouble sleeping? Keep track of modifiable behaviours that might be affecting your sleep. This app helps your monitor, trend and graph your sleep patterns and is based on the National Foundation Sleep Diary

0 assesments

Start | View assesments | 31 installs

Organic Acids - Nutritional and Metabolic Profile

Track data on your Nutritional and Metabolic Profile testing. Organic acids list compiled from Great Plains Lab sample test results. Your test result data can be entered into this data app, and over time you can view a trend or graph of changes to visually review progress or regress.

0 assesments

Start | View assesments | 141 installs

Routine Labs

A simple form that allows users keep track of routine blood draws for tests such as Complete Blood Count (CBC), Serum Chemistry (Chem 7), Hepatic Function Panel and Lipid Panel. All values can be trended, and numerical values can be graphed. Reference range values are approximations, and will vary slightly for different lab testing facilities.

3 assesments

Start | View assesments | 103 installs

Modified ATEC

This Modified ATEC Form is our version of the ARI ATEC Form. It has been simplified by removing many of the biographical data portions found in the original form and we have also added a section for uploading photo and videos, so that parents can get a visual representation of the child for each ATEC assessment.

2 assesments

Start | View assesments | 19 installs

Everything You Ever Needed to Know About What To Do with Your 23andMe Raw Data Results

https://docs.google.com/document/d/1gpsKey8mCkYfuvy8Lhd4oIXkru4qum0LJmDB3l3JDno

4. Do some reading and research:

These are some popular reading and video resources our users have shared with us:

What are SNPs ? https://www.23andme.com/gen101/snps/

What do I need to do now that I have received my 23andMe results ?
http://resqua.com/100001600189727/what-are-the-lifestyle-factors-key-changes-i-need-to-make-after-getting-my-23andme-results

What is Homozygous & Heterozygous ? http://www.makgene.com/index.cfm?fa=content.display&content_id=39

What is Epigenetics? http://www.drfranklipman.com/faqs-on-epigenetics/

Methylation Overview for Professionals
http://www.drkendalstewart.com/wp-content/uploads/2011/09/Methylation-Overview-for-Professionals-10.11.pdf

Methylation Defects in Autism Disorders By Cindy Schneider M.D. http://www.center4autism.org/therapyMETH.asp

Neil Rawlins 4-Part Video on MTHFR: http://www.youtube.com/watch?v=ZA8GUlRqlkE&sns=em

MTHFR Related Health Problems by Stephen Smith M.D. http://www.mindmeister.com/12694596/mthfr-related-health-problems

Heartfixer Online Dr. James Roberts: http://heartfixer.com/AMRI-Nutrigenomics.htm

Pathways to Recovery Book By Amy Yasko: http://www.dramyyasko.com/wp-content/files_flutter/1327512160_9_1_1_8_pdf_02_file.pdf

Pathways to Recovery Workbook By Amy Yasko: http://www.holisticheal.com/media/downloads/autism-pathways-to-recovery-workbook.pdf

Genetic Bypass by Amy Yasko: http://www.scribd.com/doc/86457985/Genetic-Bypass-Book

Amy Yasko's Road Map to Health: http://www.scribd.com/doc/132017201/Dr-Amy-s-Simplified-Road-Map-to-Health

Metabolic Healing: http://www.metabolichealing.com/michael-s-blog/methylation-epigenetics-and-nutrigenomics-identifying-and-correcting-the-core-issues-in-disease/

Listen to Dr. Rawlins talk about MTHFR on BlogTalkRadio:
http://www.blogtalkradio.com/in-short-order/2013/11/17/in-short-order--neil-rawlins-md

MTHFR & Neuropathy Handouts from September 13, 2013 presentation:
http://www.kadlec.org/uploads/MTHFR_and_Neuropathy_pdf.pdf

About Liver Detox Pathways: http://www.livingnetwork.co.za/chelationnetwork/food/liver-detox-pathways/

475 genetics acronyms and abbreviations: http://www.allacronyms.com/tag/genetics

MTHFR and Methyl Groups By Nancy Mullan M.D. http://nancymullanmd.com/ebook/The_Methyl_Group_What_It_Can_Do_for_You.pdf

About Mitochondrial Disease:
~http://www.mitoresearch.org/treatmentdisease.html
~http://neuromuscular.wustl.edu/mitosyn.html#cardinfmito

Everything You Ever Needed to Know About What To Do with Your 23andMe Raw Data Results:
https://docs.google.com/document/d/1gpsKey8mCkYfuvy8Lhd4oIXkru4qum0LJmDB3l3JDno

5. Track your health progress

Once you have a treatment plan in place, you and your Dr. can begin tracking your health progress with those Data Tools

6. Stay current & keep an eye on App updates: "Like" https://facebook.com/livewello

This is because, whenever Livewello makes updates to the Gene App, the changes are announced and free to all Livewello Gene App users.

7. Stay informed and Join More Support Groups like:

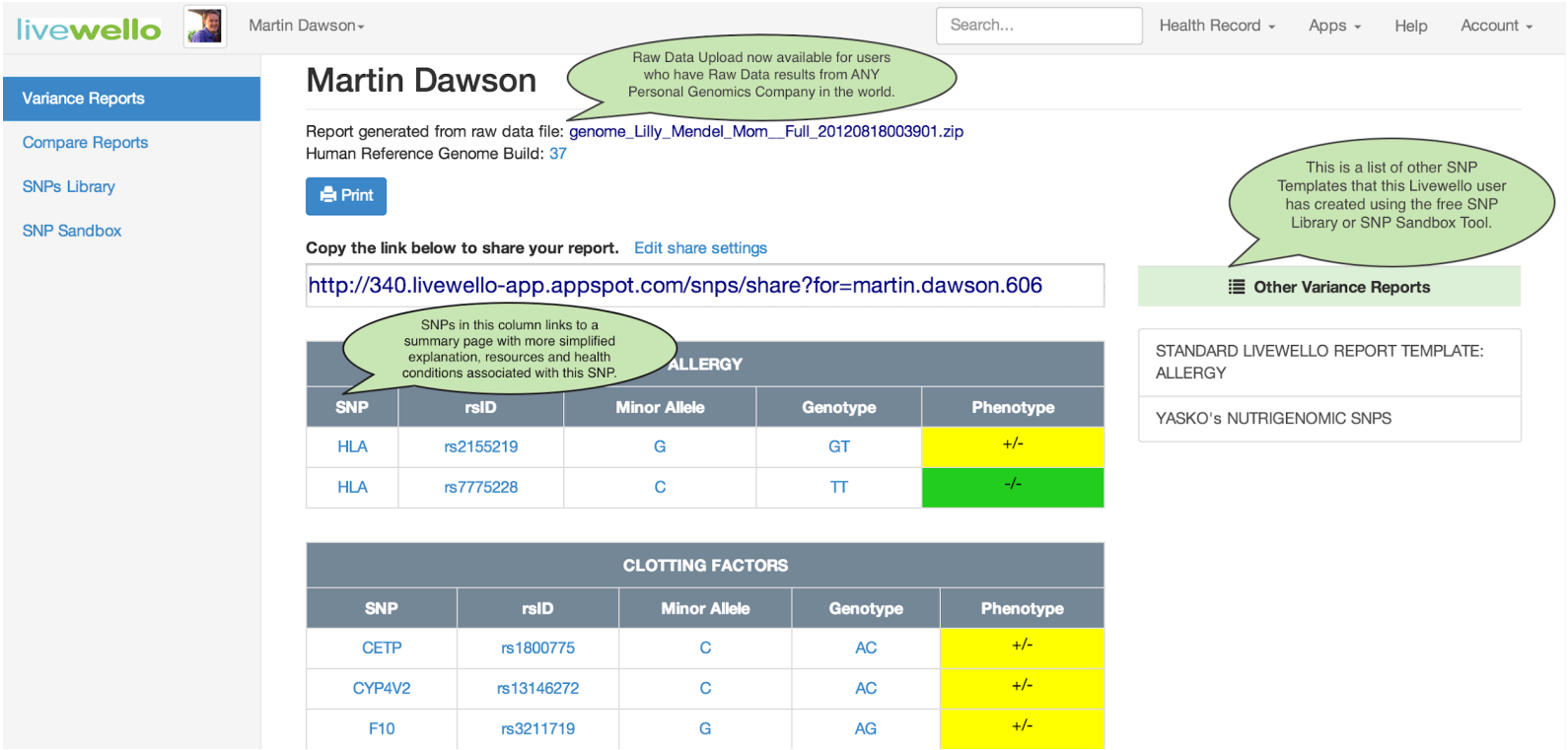
~ The 23andMe Raw Data App Group: https://www.facebook.com/groups/581889231904301/

~ The MTHFR Open Facebook Group: https://www.facebook.com/groups/230824260340671/

~ The MTHFR Genotype Support Secret Facebook Group: Ask a friend to add you or just send a Friend Request and Message to be added to: https://www.facebook.com/livewellovillage

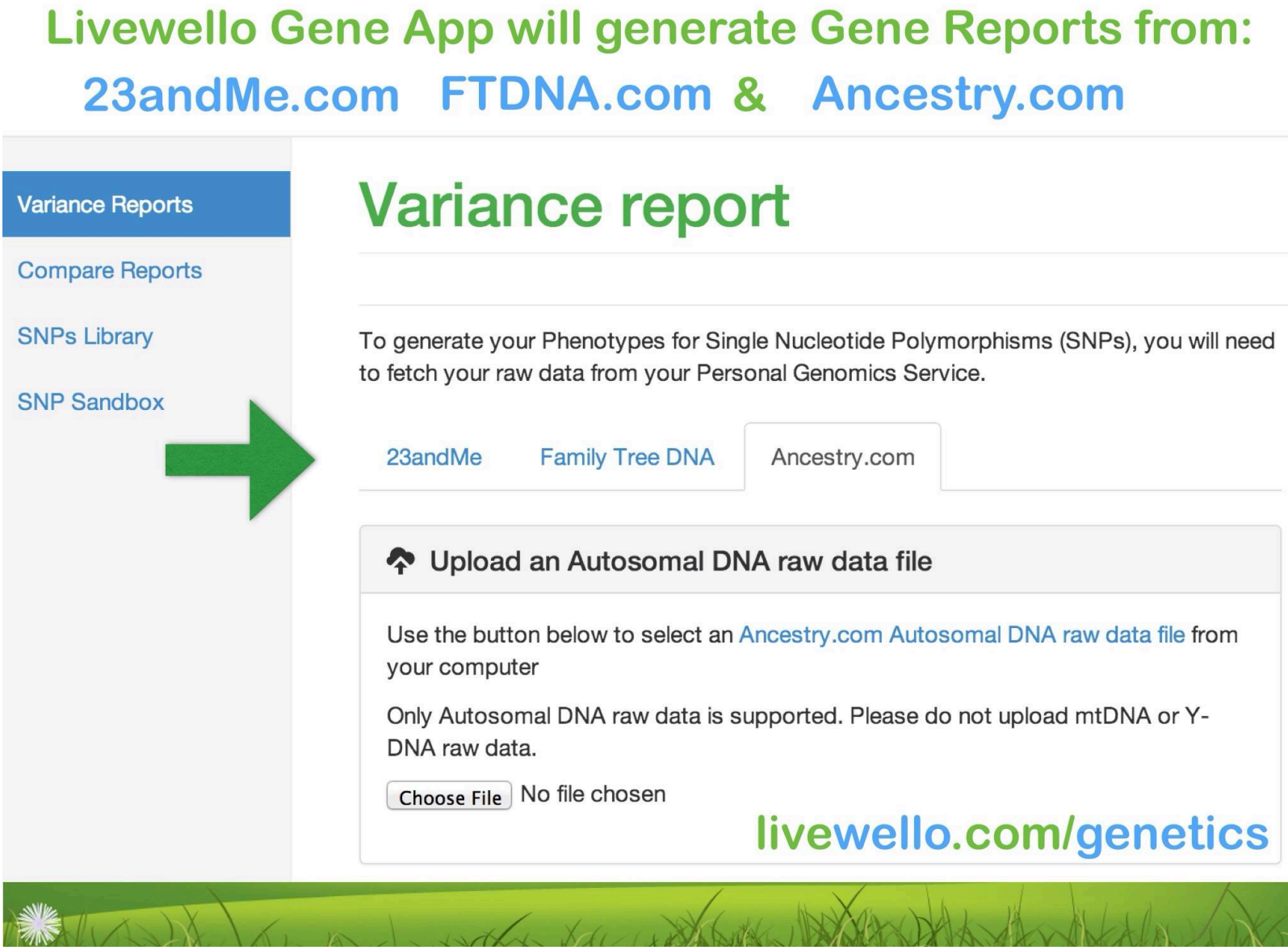
The Following Pages will have pictures of the Livewello Gene App at work.

Your Livewello's Gene App Dashboard



The LiveWello Gene App will generate a Gene Report with Raw Data from almost any

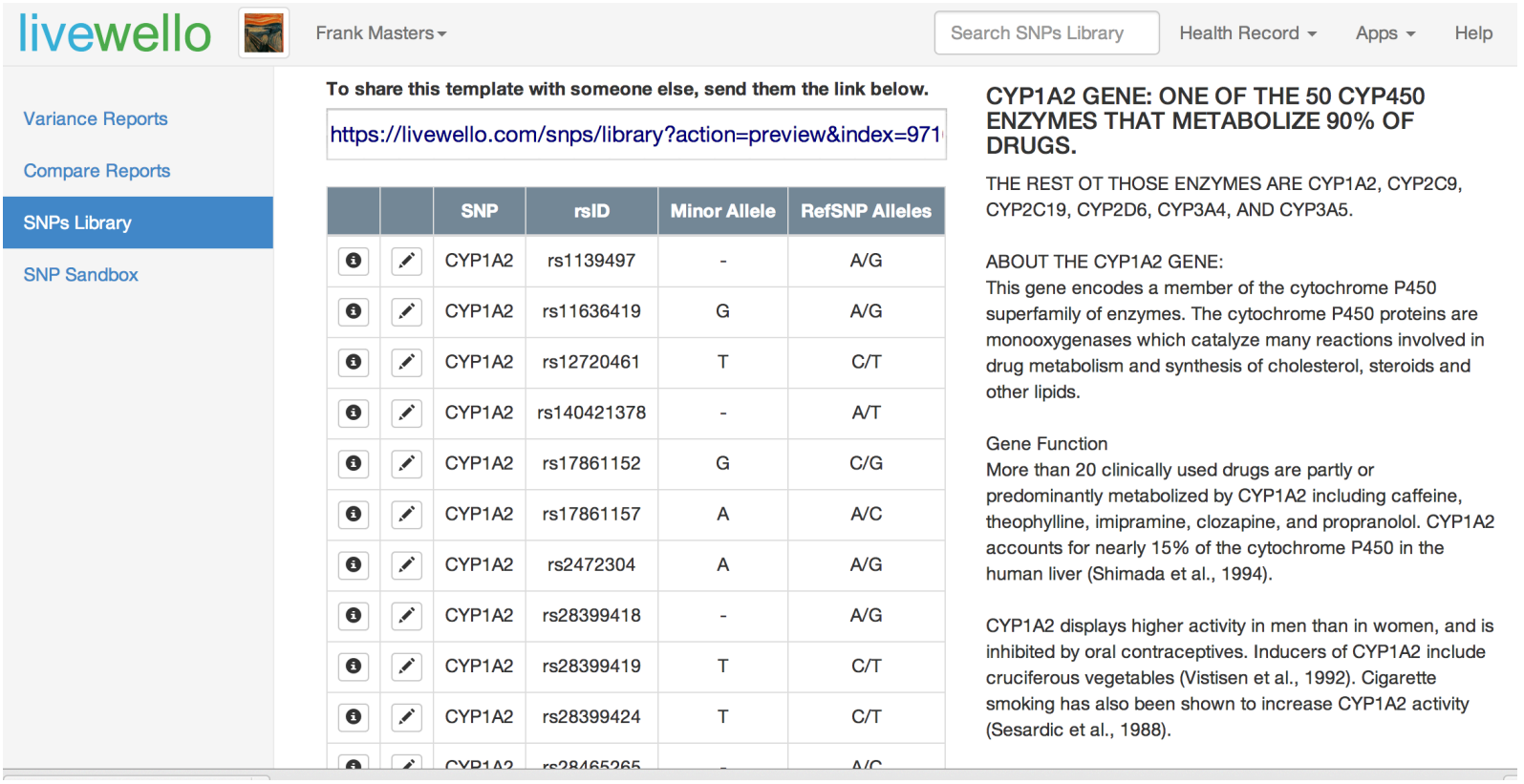
Genetics Testing Company in the world including: 23andMe Ancestry.com and Family Tree:

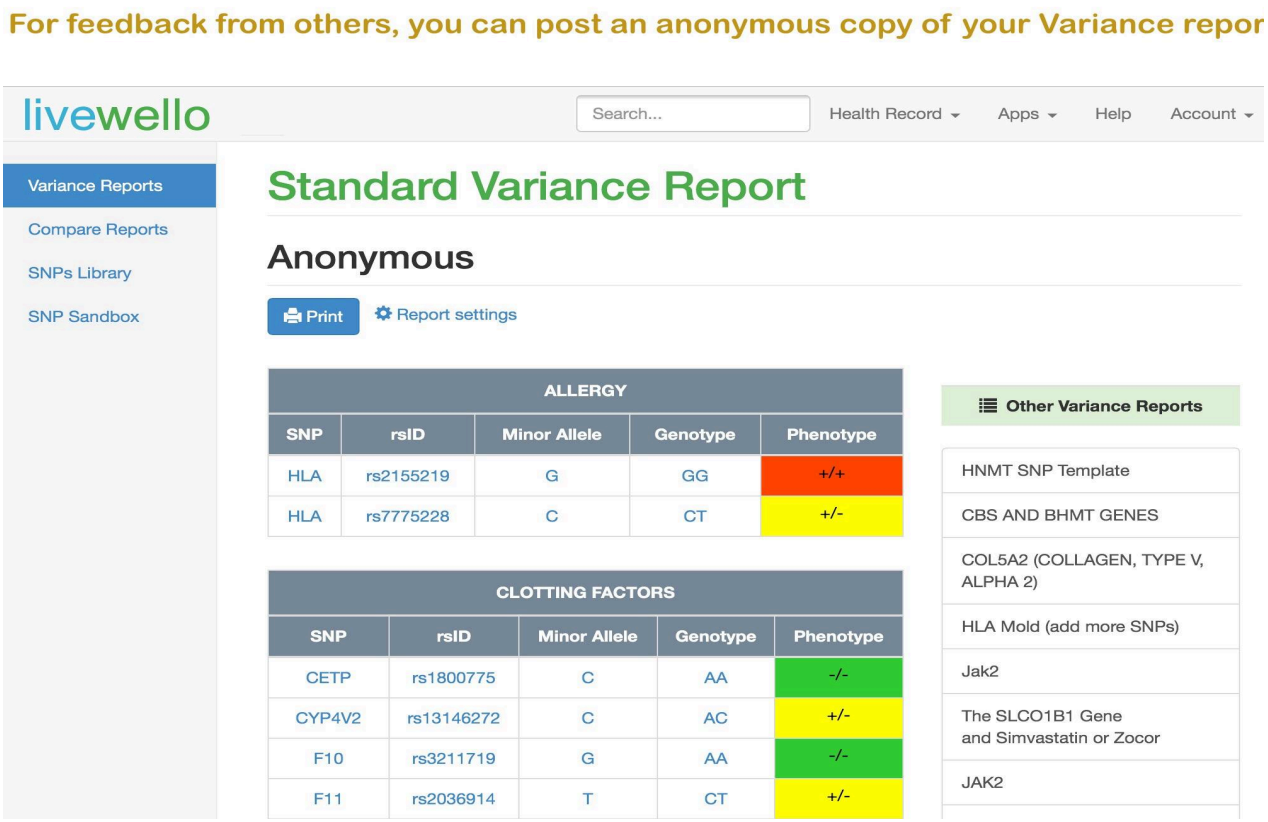


About [Livewello's SNP Sandbox tool] which is free with your Gene App:

With this tool, you can create as many different Custom SNP Reports as you'd like.

As long as a Gene is in your Raw Data with rsIS and Minor Allele from dbSNP, your Livewello Gene App will generate a Gene report for it.





More Livewello Gene App Features:

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SNP Summary

METHYLATION				
SNP	rsID	Minor Allele	Genotype	Phenotype
MTHFR A1298C	rs1801131	G	GT	+/-

Summary | PubMed

What is MTHFR A1298C?

The protein encoded by this gene catalyzes the conversion of 5,10-methylenetetrahydrofolate to 5-methyltetrahydrofolate, a co-substrate for homocysteine remethylation to methionine. Genetic variation in this gene influences susceptibility to occlusive vascular disease, neural tube defects, colon cancer and acute leukemia, and mutations in this gene are associated with methylenetetrahydrofolate reductase deficiency.[provided by RefSeq, Oct 2009]
Data provided by NCBI

More info about MTHFR A1298C

The MTHFR gene provides instructions for making an enzyme called methylenetetrahydrofolate reductase. This enzyme plays a role in processing amino acids, the building blocks of proteins. Methylenetetrahydrofolate reductase is important for a chemical reaction involving forms of the B-vitamin folate (also called folic acid or vitamin B9). Specifically, this enzyme converts 5,10-methylenetetrahydrofolate to 5-methyltetrahydrofolate. This reaction is required for the multistep process that converts the amino acid homocysteine to another amino acid, methionine. The body uses methionine to make proteins and other important compounds.

At least 40 mutations in the MTHFR gene have been identified in people with homocystinuria. Most of these mutations change single amino acids in methylenetetrahydrofolate reductase. These changes impair the function of the enzyme, and some cause the enzyme to be turned off (inactivated). Other mutations lead to the production of an abnormally small, nonfunctional version of the enzyme. Without functional methylenetetrahydrofolate reductase, homocysteine cannot be converted to methionine. As a result, homocysteine builds up in the bloodstream, and the amount of methionine is reduced. Some of the excess homocysteine is excreted in urine. Researchers have not determined how altered levels of homocysteine and methionine lead to the health problems associated with homocystinuria.

Data provided and maintained by

SNP Sandbox ™

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		SNP	rsID	Minor Allele	RefSNP Alleles
		CBS	rs234709	T	C/T
		CBS	rs6586282	T	C/T
		CBS A13637G	rs2851391	T	C/T
		CUBN	rs1801222	A	C/T
		FANCA	rs12921383	C	C/T
		FUT1	rs838133	A	C/T
		GTPBP10	rs42648	G	A/G
		LOC102724659	rs12134663	C	A/C
		MTHFR C677T	rs1801133	A	C/T
		MTR	rs2275565	T	A/C
		NOX4	rs7130284	T	C/T

HOMOCYSTEINE LEVELS AND RELATED SNPS

What is MTHFR C677T?
This gene encodes a tumor suppressor protein containing transcriptional activation, DNA binding, and oligomerization domains. The encoded protein responds to diverse cellular stresses to regulate expression of target genes, thereby inducing cell cycle arrest, apoptosis, senescence, DNA repair, or changes in metabolism. Mutations in this gene are associated with a variety of human cancers, including hereditary cancers such as Li-Fraumeni syndrome. Alternative splicing of this gene and the use of alternate promoters result in multiple transcript variants and isoforms. Additional isoforms have also been shown to result from the use of alternate translation initiation codons (PMIDs: 12032546, 20937277).

The MTHFR gene provides instructions for making an enzyme called methylenetetrahydrofolate reductase. This enzyme plays a role in processing amino acids, the building blocks of proteins. Methylenetetrahydrofolate reductase is important for a chemical reaction involving forms of the B-vitamin folate (also called folic acid or vitamin B9). Specifically, this enzyme converts 5,10-methylenetetrahydrofolate to 5-methyltetrahydrofolate. This reaction is required for the multistep process that converts the amino acid homocysteine to another amino acid, methionine. The body uses methionine

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Pubmed articles for rs6323

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Significance of Dopaminergic Gene Variants in the Male Biasness of ADHD.

J Atten Disord. 2013 Jul 23.

Objective: ADHD is frequently detected in boys though there is no established cause. One possibility is that genes predisposing to ADHD have sexually dimorphic effects. With an aim to find out the reason for this male biasness, contribution of 14 functional polymorphisms was investigated in ADHD subjects. Method: Genomic DNA of probands, their parents, and ethnically matched controls was subjected to analysis of single-nucleotide polymorphisms and variable number of tandem repeats (VNTRs). Results: Case-control analysis revealed significant higher occurrence of DAT1 intron 8 VNTR "5R" allele (p = .028), DBH rs1108580 "A" allele (p = .027), and MAOA-u VNTR-rs6323 3R-T haplotype (p = .007) in male probands. Family-based analysis showed significant preferential transmission of Dopamine receptor D4 exon 3 VNTR-rs1800955 7R-T haplotype from parents to male probands (p = .008). Interaction between DBH gene variants and low enzymatic activity was also noticed, especially in male probands. Conclusion: Data obtained may partly answer the male biasness of ADHD. (J. of Att. Dis. 2013; XX(X) 1-XX).

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MAOA and MAOB polymorphisms and anger-related traits in suicidal participants and controls.

Eur Arch Psychiatry Clin Neurosci. 2013 Aug;263(5):393-403. doi: 10.1007/s00406-012-0378-8. Epub 2012 Oct 31.

MAOA and, to a lesser extent, MAOB polymorphisms have been related to aggression traits and suicidality. We aimed to investigate the role of MAOA and MAOB in suicidal versus non-suicidal participants and interactions between genetic variation and suicidal status on aggression and anger-related traits. The sample was composed of three groups: one group of suicide attempters (n = 171, males 35.1 %), one group of suicide completers (n = 90, males 57.8 %) and a healthy control group (n = 317, males 43.8 %). We examined the following markers: MAOA rs909525, rs6323, and rs2064070, and MAOB rs1799836. Anger traits were measured with the state-trait anger expression inventory (STAXI) and aggression traits with the questionnaire for measuring factors of aggression (FAF). Associations were separately examined for males and females. Variation in the three MAOA variants was associated with higher levels of anger expressed outwards (STAXI "anger-out" subscale) in male suicidal patients compared to controls ($p < 0.001$). In females, the C allele of rs6323 showed higher scores on the same subscale ("anger out") ($p = 0.002$). Allele frequencies of the MAOA rs909525 were associated with suicidality ($p < 0.007$). Our findings show an association between genetic variation in three polymorphisms of the MAOA and anger traits in suicidal males and one replication for the functional variant rs6323 in females. This relationship was stronger than a direct genetic association with suicide status. Future studies incorporating endophenotypic measures of anger and aggression in suicidal participants are warranted.

More »

Study of a possible role of the monoamine oxidase A (MAOA) gene in paranoid schizophrenia among a Chinese population.

Am J Med Genet B Neuropsychiatr Genet. 2012 Jan;159B(1):104-11. doi: 10.1002/ajmg.b.32009. Epub 2011 Dec 7.

Monoamine oxidase A (MAOA) is the enzyme responsible for degradation of several monoamines, such as dopamine and serotonin that are considered as being two of the most important neurotransmitters involved in the pathophysiology of schizophrenia. To study a possible role of the MAOA gene in conferring susceptibility to schizophrenia, the present study genotyped the variable number of tandem repeat (VNTR) polymorphism and 41 SNPs across this gene among 555 unrelated patients with paranoid schizophrenia and 567 unrelated healthy controls. Quantitative real-time PCR analysis was employed to quantify expression of MAOA mRNA in 73 drug-free patients. While none of these genotyped DNA markers showed allelic association with paranoid schizophrenia, haplotypic association was found for the VNTR-rs6323, VNTR-rs1137070, and VNTR-rs6323-rs1137070 haplotypes in female subjects. Nevertheless, no significant change of the expression of MAOA mRNA was detected in either female or male patients with paranoid schizophrenia. Our study suggests that the interaction between genetic variants within the MAOA gene may contribute to an increased risk of paranoid schizophrenia, but the precise mechanism needs further investigation.

More »

Association study of monoamine oxidase A/B genes and schizophrenia in Han Chinese.

Behav Brain Funct. 2011 Oct 6;7:42. doi: 10.1186/1744-9081-7-42.

BACKGROUND: Monoamine oxidases (MAOs) catalyze the metabolism of dopaminergic neurotransmitters. Polymorphisms of isoforms MAOA and MAOB have been implicated in the etiology of mental disorders such as schizophrenia. Association studies detected these polymorphisms in several populations, however the data have not been conclusive to date. Here, we investigated the association of MAOA and MAOB polymorphisms with schizophrenia in a Han Chinese population. METHODS: Two functional single nucleotide polymorphisms (SNPs), rs6323 of MAOA and rs1799836 of MAOB, were selected for association analysis in 537 unrelated schizophrenia patients and 536 healthy controls. Single-locus and Haplotype associations were calculated. RESULTS: No differences were found in the allelic distribution of rs6323. The G allele of rs1799836 was identified as a risk factor in the development of schizophrenia ($P = 0.00001$). The risk haplotype rs6323T-rs1799836G was associated with schizophrenia in female patients ($P = 0.0002$), but the frequency difference was not significant among male groups. CONCLUSIONS: Our results suggest that MAOB is a susceptibility gene for schizophrenia. In contrast, no significant associations were observed for the MAOA functional polymorphism with schizophrenia in Han Chinese. These data support further investigation of the role of MAO genes in schizophrenia.

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Influence and interaction of genetic polymorphisms in catecholamine neurotransmitter systems and early life stress on

Standard Variance Report

Martin Dawson

This report was generated on Tuesday, 20. May 2014 from Martin Dawson's 23andMe raw data.

Print

ALLERGY				
SNP	rsID	Minor Allele	Genotype	Phenotype
HLA	rs2155219	G	GT	+/-
HLA	rs7775228	C	TT	-/-

CLOTTING FACTORS				
SNP	rsID	Minor Allele	Genotype	Phenotype
CETP	rs1800775	C	AC	+/-
CYP4V2	rs13146272	C	AC	+/-
F10	rs3211719	G	AG	+/-
F11	rs2036914	T	CT	+/-
F11	rs2289252	T	CC	-/-
F12	rs1801020	A	AG	+/-
F3	rs1324214	A	AG	+/-
F5	rs6025	T	CC	-/-

What next?

- Click on the links in the SNP column to learn about each SNP
- Read popular online resources recommended by other Livewello users
- Learn the basics about methylation pathways
- Browse the SNPs library and find out which other significant SNPs you might have.
- Find Health practitioners who are experienced in genetics, epigenetics and pharmacogenomics.
- What else's does your Livewello gene app do?

Frequently Asked Questions

When you click on an existing SNP Template in the [Livewello SNP Library](), this is what it looks like:

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		SNP	rsID	Minor Allele	RefSNP Alleles
		CYP1A1	rs1799814	T	A/C
		CYP1A1	rs4986883	C	A/G
		CYP1A2	rs762551	C	A/C
		CYP1B1 N453S	rs1800440	C	A/G
		CYP2C9	rs1057910	C	A/C
		CYP2C9*2 C430T	rs1799853	T	C/T
		CYP2D6	rs1065852	A	C/T
		CYP2D6	rs1135840	C	C/G
		CYP2D6	rs59421388	T	C/T
		CYP2D6	rs78482768	-	C/G

MULTIPLE CHEMICAL SENSITIVITY

About MCS
http://en.wikipedia.org/wiki/Multiple_chemical_sensitivity#cite_note-McKeown_et_al._2004-51

A new study by Schnakenberg et al. (2006) confirmed the genetic variation previously found by McKeown-Eyssen and Haley. A total of 521 unrelated individuals participated in the study. Genetic variants of four genes were analyzed: NAT2, GSTM1, GSTT1, and GSTP1. The researchers concluded the individuals who are NAT2 slow acetylators and those with homozygously deleted GSTM1 and GSTT1 genes are significantly more likely to develop chemical sensitivity.

According to the study, the glutathione S-transferases act to inactivate chemicals, so people without these GSTM1 and GSTT1 genes are less able to metabolize environmental chemicals, because "glutathione S-transferases play an important role in the detoxification of chemicals". The deletion of another gene, the GSTP1 gene, leaves individuals more susceptible to developing these diseases, as lack of these genes means a loss of protection from oxidative stress.

Study of genotypes in multiple chemical sensitivity: CYP2D6, NAT1, NAT2, PON1, PON2 and MTHFR:
http://m.ije.oxfordjournals.org/content/33/5/971.full#ref-

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The LiveWello Gene App is a software that generates your Variance Report with the results in your 23andMe Raw Data. It is designed to tell you if you carry variant SNP. If you do carry an abnormal SNP(gene), this may or may not lead to the manifestation of disease or the need for treatment. This is where your signs, symptoms and other relevant Lab results come to play. As such, this is for your experienced Physician/Practitioner to determine, as he/she will have first hand knowledge of your complete health history and physical evaluation. Like any other Lab result, would be your next course of contact once the App generates your report.

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