

Becoming Brad Pitt: Uses and Abuses of DNA

1:16am Safeway Supermarket, Mission District

120, 140.... 260, 280...

The cashier looked at me, half-asleep and half-confused, as I counted out the twenties for her. One of her co-workers had suggested I come back after 1am to avoid the lines.

"How do I check the balance?" I asked. This was all new to me.

The sole other customer stood in line waiting for me to finish, drunk and laughing at the fact that I was using cash. Little did he realize that greenbacks were an integral part of the entire process. In and out like a phantom with no name.

"I honestly have no idea."

No matter. Two \$200 VISA and MasterCard gift cards later, I walked out the door into the cold night, one step closer to becoming Brad Pitt.

Solving the "French Paradox" - Three weeks before

Safeway

"2 grams per kilogram is assuming they don't have the COMT gene."

The COMT gene??

Until this precise moment, I'd had no interest in DNA testing. I didn't want to know about predispositions to diseases I couldn't prevent. That seemed like a recipe for ulcers.

What was the point?

Well, as it turned out, there were some applications I'd overlooked.

Three weeks before landing in the restricted-access NASA laboratory where I now sat, I'd had a conversation with Charles Poliquin, who has coached Olympic medalists in 17 different sports and world record holders in 10 sports. The first topic was intravenous vitamin C, which I'd experimented with up to 50 grams per hour for shortening recovery time, both from exercise and viruses.

Poliquin noted that the real biochemical magic didn't start until 2 grams per kilo of lean bodyweight (about 0.9/grams per pound). This more than 150 grams for a 180-pound male like me.

High dosing like this could accelerate fat loss and other results up to 2.5-times. The potential downside? Several orthomolecular scientists stated it bluntly: there was a chance I could suffer kidney failure and die. This didn't make the risk-to-benefit ratio terribly appealing.

But Charles had a slow progressive protocol, and the first criterion for candidates made me sit up and pay attention: the COMT gene.

"I do genetics testing for all of my elite clients. The COMT gene indicates poor detox capabilities. I've never seen a double expression of the COMT gene at the highest levels of athletics. If you have the MTHFR gene [aptly nicknamed the 'motherf*cker' gene based on its initials and implications], as another example, which is a defective gene passed on by the Romans, you are a poor methylator and can't clear the liver very well."

defective for detox?

Good In essence, certain genes can determine the dosages of treatments and drugs you can or can't use—in what dosages—whether to save your life or gain muscle. It also affects how you'll respond to diet.

"The so-called 'French Paradox'? Eating cheese and fat but not getting fat like Americans? It's no paradox. Only 2% of French possess the MTHFR gene, whereas it's a dominant gene in the US and found in nearly 66% of the population."

If you eat what the French eat, in other words, it doesn't mean you'll be thin like the French.

It's how you respond to your food—removing toxins, metabolizing fats, etc.—not just what you eat, that matters. Does this mean you are pre-destined to be fat or thin? No. It does mean that if you know you're predisposed in one direction, you can then choose inputs (food, drugs, etc.) that will point you in the opposite direction.

Imagine how much time you'd save if, before setting foot in the gym or buffet line, you could determine the type of exercise or food you'd best respond to?

[ACTN3]

Then I was introduced to Atlas Gene by yet another company called DNADirect.

The analysis showed that I have the R577X variant in both copies of my ACTN3 gene.

This result is seen more frequently in elite level athletes competing in endurance events such as swimming events of 400 meters or more and running events of 1,000 meters or more. The report, signed by the lab's chief molecular geneticist, begins with the bolded header: "Congratulations Tim Ferriss. Your Genetic Advantage: Endurance Sports"

Redundant?

It seemed like science fiction, and most of it would end up being exactly that, but I could at least act on the test results of the COMT and motherf*cker genes.

DNA had just become much more interesting... and, as I would learn, more dangerous.

Cloak and Dagger and DNA - Three days before Safeway

The security-clearance sticker seemed unnecessary, so I took it off my breast pocket and stuck it to my notebook.

"If you know how to make customized molecular weapons, like I do, you don't want anyone to have your genetic information with your name associated with it. Open-source biology is like open-source nuclear weapons—reckless at best."

I nodded. This Eastern European researcher had patents for some of the most advanced genetics algorithms in existence. He continued:

"If I dislike you and learn that you have a predisposition to ~~Lou Gehrig's~~ disease, for example, I can simply take molybdenum powder and blow it into your face at an public speaking event. Even just in your general direction. It's an environmental catalyst for Lou Gehrig's and could very well be enough to trigger that disease in you. It doesn't take much."

Parkinson's

[metal X]

That begets the question: how do you become someone else? Temporarily and for the purposes of getting your DNA information without giving up other information?

There are a number of methods for masking identity to make purchases without feeling like a terrorist, as the same scientist would explain. In all cases, if the FBI or CIA really wants to find you, they will. Having worked with both before, I can promise you this. On the other hand, if a random troublemaker, lunatic, or insurance company wants to be a pain in the ass, there will be easier targets and they'll go for lower-hanging fruit.

Here are the steps that I've used easily and quickly:

1) Use an IP address not associated with you or your computer. Option one and ideal: use a public computer (library, internet cafe, etc.) to access the website where you'll order DNA kits. Option two: download a program like Hotspot Shield (www.anchorfree.com) that will mask your IP address. Option two also allows you to use sites banned outside the United States. (2)

2) For contact information in the shopping cart, use an e-mail address created at the anonymous e-mail service www.hushmail.com, and use either a fake phone number (415-555-5555) or create a phone number using www.inumbr.com that forwards to your phone for a set period of time, after which it expires. I created two layers of noise using an iNumbr number that forwarded to a Google Voice number, which then forwarded to my real cell.

3) For payment, I've used two options. Option one and ideal: make payment with either gift cards found commonly at large supermarkets or online (find a location here: http://usa.visa.com/personal/cards/prepaid/visa_gift_card.html). If a phone number verification is needed for internet/phone orders, use the technique in step 1 above. Option two: call your credit card company and ask to add an employee to your card, for whom you will use an

obvious celebrity name. This will be important for product shipping.

} — still don't really know where this is going

4) For shipping address, either use a home that's vacant or for sale, or use a rental service like a UPS store, where you'll give the street address but not the box number. I chose the latter, where I'd developed a good relationship with the owner and all of the employees. Size matters—choose a smaller location. Be sure to omit the box number, as many companies will not ship to what they perceive as PO or UPS boxes.

To receive mail for a given name—your pseudonym when ordering DNA kits—you will need to provide a photo ID at UPS or similar outfit. This would seem to be a game-ender, but there are two ways to get around it. I've tested both, and both require that you spend at least a few weeks becoming a trusted customer who comes in in-person at least once a week. Option one and ideal: tell them a friend thought he was mailing to your home and is sending a package to "Brad Pitt" or another obvious celebrity name as a joke. Celebrity names are funny; made-up names indicate you are probably doing something illegal. Laugh, apologize, and ask them if they can hold it for you. It will work. Option two: Use a slight misspelling of your first and last names. For example, if you're Robert Smith, you might use "Bobert Zmith". It will make it to you, especially if you let them know in advance that you mistyped your name on an order.

What to Get Tested

Beware the Shaman Effect.

Raymond McCauley, Sr. Bioinformatics Scientist at Illumina:

FYI -- I unlocked the two "gotcha" reports that they don't show in your profile (Parkinson's and cancer BRCA1 & BRCA2) -- nothing but good news there -- you have none of the known

bad mutations....

In fact, overall, your profile is very boring (in a good way) and you look disgustingly healthy.

Probably every single one of us has between 1-10 "horror stories" locked away in our genome -- diseases where we're carriers, or at much higher risks of developing. But there's very little showing up for you, or (at worst) a few things where you **may** have **slightly** elevated risks for something (celiac disease is your worst call-out, and it's not bad; see also the colorectal cancer or bipolar disorder research reports), but even some of those are contradicted (see the **other** bipolar disorder research report).

Of course (to throw a metaphorical mosquito in the ointment) it's the stuff that we **don't** know about yet that'll get you -- kind of like male and female mosquitoes -- you can hear the males with their irritating buzzing, but the females are silent, and they're the blood suckers. So in effect, you've got a silent mosquito on your hands...

Hope that isn't a horribly depressing metaphor...

Anyway, I'm assuming you'd really like to look more at the athletic performance stuff, right? I just wanted to take a quick look, and pass you my first impressions.

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TCF: I'm definitely interested primarily in the question: based on all of this data - 1) what should/can i do? and 2) can i use any of it to optimize training or nutrition?

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I'm trying to run a more revealing analysis on your SP data (if we just look at what they have interpreted, it's pretty thin), and to do that I need to download an actual text file from the 23andMe site.

Login

Go to Account (upper right corner)

Browse Raw Data

Download Raw Data (upper right)

unlock the password/secret question challenges

download a text files with all of the SNP calls

Resources:

Atlas Gene

How to buy DNA samples

23andMe

Navigenics

¹ this is not a real example, of course

² Including my favorite source of music: www.pandora.com.

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