Genetic Lifehacks

Learn. Experiment. Optimize.

Hey everyone,

I'm always open to suggestions for topics, and this week's featured article on heat shock proteins was inspired by a member's question.

Additionally, several members emailed recently with questions and difficulties with the topic summary reports. Some were wanting everything in one report, and others were having issues with printing or creating .pdfs from different operating systems.

Genetic Lifehacks is completely member-supported, so I'm always striving to bring more value to members :-)

For anyone with problems printing or who wants everything in one file, my solution is a free 'cheat sheet' that covers all the topics on Genetic Lifehacks. What is the cheat sheet? It's simply a .pdf file that shows how your data matches up to the hundreds of articles on Genetic Lifehacks -- like the Topic Summary Reports, but in a more consolidated format. The drawback is that you will have to upload and send me your genetic data file. Yes, this is a departure from the membership features, which all run in the browser with your data staying securely on your own computer. I commit to store your data safely and delete it within a month, but for anyone concerned with data privacy, I suggest sticking with the Topic Summary Reports and just saving everything into multiple .pdfs.

Hope you are all doing well,

Debbie Moon

Heat Shock Proteins: Cellular Resilience

Resilience. Survival. Flexibility. Our cells need to be able to survive in all kinds of conditions – from cold to heat, nutrient deprivation to toxic insults. Heat shock proteins are at the heart of cellular resilience.

Here we will cover the essentials of heat shock proteins, including how to activate them and the genetic variants that impact how well they work.

Read the article and check your genes...

Curcumin Supplements: Decreasing Inflammation

Have you heard that curcumin supplements offer a slew of health benefits but are not sure why? Curcumin, a polyphenol found in turmeric, is a spice used in traditional Indian cuisine and in other areas of Asia as a drink. Turmeric is harvested from the rhizome of *Curcuma longa*, which is a member of the ginger family. It has a long history of use both as a spice and in traditional Ayurvedic medicine.

Curcumin is anti-inflammatory and decreases oxidative stress. It inhibits TNF-alpha and decreases NF-kB.

Read the article and check your genes...

What I've Been Reading...

1) CRY1 Gene Polymorphism and Racing Performance of Homing Pigeons

I find it fascinating - and funny - that researchers are looking at performance-related genes for **racing pigeons**. (I didn't know that racing pigeons was still a thing :-)

One gene that matters for homing pigeon performance is CRY1. Humans also have a similar CRY1 gene, which is part of the core circadian clock. And circadian rhythm is also important in our performance, although most of us don't have the navigation skills of a homing pigeon.

Check your CRY1 gene variant in the Circadian Rhythm and Depression article

2) Humoral immune responses against seasonal coronaviruses predict efficiency of SARS-CoV-2 spike targeting, FcγR activation, and corresponding COVID-19 disease severity

This is a preprint for a study looking at the immune response to COVID-19. There are multiple human coronaviruses that circulate as the seasonal cold, and we've likely all been exposed to one. Prior exposure to other coronaviruses impacts response to SARS-CoV-2, and other research has shown that T-cell response from previous infections may help in fighting off this new coronavirus. But, this new research on IgG antibodies reveals a more complex picture... If I understand it correctly, certain coronavirus exposure may give a protective antibody response, while other coronavirus exposure could give a deleterious response - essentially making your SARS-CoV-2 infection worse. Again, this is a preprint and likely needs to be replicated as well as peer reviewed.

3) Pfizer/BioNTech request to the FDA for booster approval

I'm all for people making informed decisions based on research. For anyone looking into the pros and cons of getting a booster shot for the COVID-19 mRNA vaccine, this Pfizer document may give you more information. It outlines the data from the phase I and phase 2/3 studies on boosters, and it includes information on the trial participants. Interestingly, the Pfizer study only included 12 people over age 55 in the booster trial, all of whom were Caucasians with no pre-existing conditions. If reading a lot of genetics research has taught me anything, it is that there are population-specific differences and trials need to include a diverse group of participants.

"We must be free not because we claim freedom, but because we practice it."
William Faulkner