GLP Podcast: Vaccine denier vs skeptic; Food changes DNA? Biotech will help solve next health crisis

Treating vaccine-hesitant individuals like they are hardcore vaccine “deniers” could backfire as a science-outreach strategy. Can the food you eat actually change your DNA? Biotechnology gave us effective COVID-19 vaccines, and it may prove even more useful when the next global health crisis arrives.

Join geneticist Kevin Folta and GLP contributor Cameron English on episode 166 of Science Facts and Fallacies as they break down these latest news stories:

- **Misinformation or disinformation? Deniers or skeptics? How the GMO and vaccine controversies are undermining science communication**

Are all science “deniers” created equal? According to risk expert Dr. David Zaruk, the answer is no. Many people may have doubts about the safety or efficacy of a new drug, though their uncertainty isn’t motivated by the intense ideological commitments that usually drive genuine vaccine denialism. By blurring the distinctions between these two groups, science advocates risk alienating the merely vaccine hesitant and driving them into the arms of more radical anti-vaccine activists. How do we combat the ideologues while simultaneously winning the trust of open-minded consumers who have legitimate questions about vaccination?

- **Nutrigenomics: Can what you eat reprogram your genes?**

“You are what you eat,” the old saying goes. But to what extent does your diet actually modify the expression of your genes? Some preliminary animal studies have offered helpful clues. We also know, for example, that exposure to toxin-producing molds in food can cause cancer, though definitive answers about how specific nutrients affect human DNA remain elusive. So when it comes to “nutrigenomics,” how much of the field is good science and how much is speculation?

- **Why biotechnology will be critical in preparing for the next health crisis**

Biotechnology proved its value during the COVID pandemic by allowing scientists to rapidly engineer and mass produce effective vaccines. When the next global health crisis hits, and it will inevitably hit, biotech experts anticipate that AI-powered modeling will help us anticipate how a dangerous pathogen may spread, thus giving public health officials the upper hand as they try to learn from past mistakes and craft a more effective response. The more important question, though, is this: does the public trust mainstream science enough to accept wider use of biotechnology?

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