IS THAT YOUR DNA? pdf

1: DNA Do-Over: Downloading and Uploading Your DNA Test Data - Abundant Genealogy

DNA, or deoxyribonucleic acid, is the hereditary material in humans and almost all other organisms. Nearly every cell in a person's body has the same DNA. Most DNA is located in the cell nucleus (where it is called nuclear DNA), but a small amount of DNA can also be found in the mitochondria.

Both companies also have a higher research participation level that you can choose to participate in, or opt out of, that grants them permission to sell or otherwise utilize your non-anonymized data, meaning your identity is attached to that information. Anonymized data means your identity and what they consider identifying information has been removed. Opt-out is not truly opt-out. They still share your anonymized data in aggregated fashion. Some people are fine with this. I feel like a consumer should receive what they pay for and not have their DNA data co-opted, often without their knowledge, explicit permission or full situational understanding, for other purposes. Most people have no idea this is happening. How could a consumer not know, you ask? Their language, in multiple documents that refer back and forth to each other, is extremely confusing. The University of Southern California has prepared this document describing the different aspects of informed consent for research. While 23andMe has clearly been affiliated with the medical community for some time, Ancestry historically has not and there is absolutely no reason for an Ancestry customer to suspect that Ancestry is doing something else with their DNA. After all, Ancestry is a genealogy company, not a medical genetics company. By this time, the consumer has already made their purchase decision, has already entered their credit card number and is simply doing a final review and approval. In the 23andMe Terms of Service, we find this: Waiver of Property Rights: You understand that by providing any sample, having your Genetic Information processed, accessing your Genetic Information, or providing Self-Reported Information, you acquire no rights in any research or commercial products that may be developed by 23andMe or its collaborating partners. You specifically understand that you will not receive compensation for any research or commercial products that include or result from your Genetic Information or Self-Reported Information. You understand that you should not expect any financial benefit from 23andMe as a result of having your Genetic Information processed; made available to you; or, as provided in our Privacy Statement and Terms of Service, shared with or included in Aggregated Genetic and Self-Reported Information shared with research partners, including commercial partners. Clicking on the privacy policy showed me the following information in their privacy highlights document: We may share anonymized and aggregate information with third parties; anonymized and aggregate information is any information that has been stripped of your name and contact information and aggregated with information of others or anonymized so that you cannot reasonably be identified as an individual. In their full Privacy statement, we find this: By using our Services, you agree to all of the policies and procedures described in the foregoing documents. Under the Withdrawing Consent paragraph: If you withdraw your consent for research your Genetic Information and Self-Reported Information may still be used by us and shared with our third-party service providers to provide and improve our Services as described in Section 4. If you do not complete a Consent Document or any additional consent agreement with 23andMe, your information will not be used for 23andMe Research. However, your Genetic Information and Self-Reported Information may still be used by us and shared with our third-party service providers to provide and improve our Services as described in Section 4. If you want to terminate your legal agreement with 23andMe, you may do so by notifying 23andMe at any time in writing, which will entail closing your accounts for all of the Services that you use. You can read the 23andMe full privacy statement here. You can read the 23andMe Terms of Service here. You can read the Consent document here. You can read about this here, here and here. When you purchase an AncestryDNA kit, you are asked the following, also at the very end of the purchase process. Here is the Ancestry Privacy Statement. By submitting DNA to AncestryDNA, you grant AncestryDNA and the Ancestry Group Companies a perpetual, royalty-free, world-wide, transferable license to use your DNA, and any DNA you submit for any person from whom you obtained legal authorization as described in this Agreement, and to use, host, sublicense and distribute the resulting analysis to the extent and in the form or context we deem appropriate on or through any media or medium and with any

technology or devices now known or hereafter developed or discovered. You hereby release AncestryDNA from any and all claims, liens, demands, actions or suits in connection with the DNA sample, the test or results thereof, including, without limitation, errors, omissions, claims for defamation, invasion of privacy, right of publicity, emotional distress or economic loss. This license continues even if you stop using the Website or the Service. The is no complete opt-out at Ancestry either. So, how many of you read the Terms and Conditions and Privacy Statements at either 23andMe or Ancestry and understood that you were in essence giving them carte blanche with your anonymized data when you purchased your tests from them? Is this what you intended to do? How many of you understood that the ONLY way to obtain your genealogy information, ethnicity and matching is to grant 23andMe and Ancestry authorization to use your DNA for other purposes? How many of you understood you could never entirely opt-out? Where is your DNA? What are they doing with it? How much did or will Ancestry or 23andMe, or Big Pharm make from it? Are they using your DNA to design gene manipulation techniques that you might personally be opposed to? Furthermore, if I opt out, I should be able to opt out entirely. And yes, I still had to ask an attorney, to be certain, even after reading all the fine print. Why did I ask a legal expert? This article in the New York Times details the practice, an excerpt given below: Tissues from millions of Americans are used in research without their knowledge. How people feel about this varies depending on everything from their relationship to their DNA to how they define life and death. This may be about to change. Change is Needed The 23andMe and Ancestry process of consent needs to change too. Today, the details are buried in layers of verbiage and the bottom-line meaning certainly is not clear. You cannot place an order without agreeing and clicking the box. Shame on us, the consumers, for not reading the fine print, assuming everyone could understand it. Shame on them for being less than forthright, providing no entire opt-out, or better yet, requiring a fully informed-consent intentional opt-in. Furthermore, these two large companies are likely only the tip of the iceberg â€" leading the charge as it were. I confirmed this with the owners, this week. Surely, if Ancestry and 23andMe continue to get away with this less than forthright technique, more companies will follow suit. They do utilize your DNA, but that is the entire purpose of this organization. This is not an endorsement of their organization or services â€" just a comment. GedMatch, a third party site utilized heavily by genetic genealogists states their data sharing or selling policy clearly. It is our policy to never provide your genealogy, DNA information, or email address to 3rd parties, except as noted above. We may use your data in our own research, to develop or improve applications. Using data internally for application improvement for the intended use of the test is fully legitimate, can and should be expected of every vendor. Bottom line â€" before you participate in DNA testing or usage of a third party site, read the fine print fully and understand that no matter how a vendor tries, your DNA can never be fully anonymized. Call to Action I would call on both 23andMe and Ancestry to make what they are doing, and intend to do, with their customers DNA much more transparent. Consumers have the right to clearly know before they purchase the product if they are required to sign an authorization such as this and what it actually means to them. Many people who do consent believe their participation is altruistic, meaning that only nonprofit organizations like the Michael J. Fox Foundation will benefit, not realizing the full scope of how their DNA data can be utilized. Lastly, I would call on both companies to obtain a fully informed consent for every person in their system today who has already purchased their product, and to discontinue using any of the data in any way for anyone who does not sign that fully informed consent. This includes internal use aside from product improvement , not just third party data sharing or sales, given that 23andMe is planning on developing their own drugs. If you support this call to action, let both companies know. Furthermore, vote with your money and consumer voice. I will be making sure that anyone who asks about testing firms is fully aware of this issue. You can do the same thing by linking to this article. Ancestry â€" or in the US. For other locations click here Write them:

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2: What is DNA? | Facts | www.enganchecubano.com

That means a Y-DNA test can tell you about your father's father's father's father, and many generations before that, but not about any of your other ancestors. Y-DNA is most useful if you want to prove a connection to a certain ancestor.

When words and phrases are spoken and modulated on specific frequencies â€" the reprogramming effect on DNA are extraordinary. According to them, our DNA is not only responsible for the construction of our body but also serves as data storage and in communication. The Russian linguists found that the genetic code, especially in the apparently useless junk DNA follows the same rules as all our human languages. To this end they compared the rules of syntax the way in which words are put together to form phrases and sentences , semantics the study of meaning in language forms and the basic rules of grammar. They found that the alkalines of our DNA follow a regular grammar and do have set rules just like our languages. So human languages did not appear coincidentally but are a reflection of our inherent DNA. The Russian biophysicist and molecular biologist Pjotr Garjajev and his colleagues also explored the vibrational behavior of the DNA. The bottom line was: Since the basic structure of DNA-alkaline pairs and of language as explained earlier are of the same structure, no DNA decoding is necessary. Turning Frogs into Salamanders In their DNA experiments with animals, the Russian scientists successfully transmitted information patterns from one set of DNA to another â€" and were even able to reprogram cells to another genome. They transformed frog embryos into salamander embryos â€" without lifting a single scalpel or making one incision! Epigenetics is the phenomena whereby genetically identical cells express their genes differently, resulting in different physical traits. What if you could change your genes just as easily as changing your clothes? Did you know that you can actually program your DNA to create a healthy body in as little as 2 minutes? It is a widely held belief that DNA, which is shaped like a double helix, has a fixed structure and cannot be changed. But a recent study from the Institute of HeartMath has shed startling results that challenge what we thought we knew about DNA. In the study, human DNA was placed in a sealed test tube. Test subjects who were trained to generate focused feelings were able to intentionally cause a change in the shape of the DNA. Negative emotions, produced at will, caused the two strands that comprise human DNA to wind more tightly. Heart-centered feelings of love and appreciation generated by the research subjects caused the DNA strands to unwind and exhibit positive changes in just 2 minutes. The different kinds of cells in our bodies provide an example. Skin cells and brain cells have different forms and functions, despite having exactly the same DNA. There must be mechanismsâ€"other than DNAâ€"that make sure skin cells stay skin cells when they divide. This may be the first scientific evidence of the long-held theory that emotion greatly affects our health and quality of life. If we can influence the behavior of DNA and health in a test tube, what untold health benefits might we experience by changing the DNA in our bodies? As such, you can cause cancer cells or any abnormal or mutated cells to act like normal human cells. In one of Dr. And in ongoing epigenetic trials, half the patients are in complete remission from cancer. Our DNA contains your genetic code. Whether good or bad, your genes are like a set of cards dealt to you in a card game. Epigenetics offers a life-changing opportunity for you to have better genes than the ones you were born with! You may even be able to influence cellular metabolism and remedy genetic defects, as the Russian scientists have been able to do successfully.

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3: Why Your DNA Results Didn't Show Your Native American Ancestry â€“ The Genealogy Reporter

The structure of DNA and RNA. DNA is a double helix, while RNA is a single helix. Both have sets of nucleotides that contain genetic information.

Structure of cytosine with and without the 5-methyl group. Deamination converts 5-methylcytosine into thymine. Base modifications and DNA packaging Further information: DNA methylation and Chromatin remodeling The expression of genes is influenced by how the DNA is packaged in chromosomes, in a structure called chromatin. Base modifications can be involved in packaging, with regions that have low or no gene expression usually containing high levels of methylation of cytosine bases. DNA packaging and its influence on gene expression can also occur by covalent modifications of the histone protein core around which DNA is wrapped in the chromatin structure or else by remodeling carried out by chromatin remodeling complexes see Chromatin remodeling. There is, further, crosstalk between DNA methylation and histone modification, so they can coordinately affect chromatin and gene expression. Mutagens include oxidizing agents , alkylating agents and also high-energy electromagnetic radiation such as ultraviolet light and X-rays. The type of DNA damage produced depends on the type of mutagen. For example, UV light can damage DNA by producing thymine dimers , which are cross-links between pyrimidine bases. Because of inherent limits in the DNA repair mechanisms, if humans lived long enough, they would all eventually develop cancer. Although most of these damages are repaired, in any cell some DNA damage may remain despite the action of repair processes. These remaining DNA damages accumulate with age in mammalian postmitotic tissues. This accumulation appears to be an important underlying cause of aging. Most intercalators are aromatic and planar molecules; examples include ethidium bromide , acridines , daunomycin , and doxorubicin. For an intercalator to fit between base pairs, the bases must separate, distorting the DNA strands by unwinding of the double helix. This inhibits both transcription and DNA replication, causing toxicity and mutations. The set of chromosomes in a cell makes up its genome ; the human genome has approximately 3 billion base pairs of DNA arranged into 46 chromosomes. Transmission of genetic information in genes is achieved via complementary base pairing. Usually, this RNA copy is then used to make a matching protein sequence in a process called translation , which depends on the same interaction between RNA nucleotides. In alternative fashion, a cell may simply copy its genetic information in a process called DNA replication. The details of these functions are covered in other articles; here the focus is on the interactions between DNA and other molecules that mediate the function of the genome. Genes and genomes Further information: In eukaryotes, DNA is located in the cell nucleus , with small amounts in mitochondria and chloroplasts. In prokaryotes, the DNA is held within an irregularly shaped body in the cytoplasm called the nucleoid. A gene is a unit of heredity and is a region of DNA that influences a particular characteristic in an organism. Genes contain an open reading frame that can be transcribed, and regulatory sequences such as promoters and enhancers , which control transcription of the open reading frame. In many species , only a small fraction of the total sequence of the genome encodes protein. For example, only about 1. Telomeres and centromeres typically contain few genes but are important for the function and stability of chromosomes. Genetic code , Transcription genetics , and Protein biosynthesis A gene is a sequence of DNA that contains genetic information and can influence the phenotype of an organism. Within a gene, the sequence of bases along a DNA strand defines a messenger RNA sequence, which then defines one or more protein sequences. The relationship between the nucleotide sequences of genes and the amino-acid sequences of proteins is determined by the rules of translation , known collectively as the genetic code. These encode the twenty standard amino acids , giving most amino acids more than one possible codon. The double helix is unwound by a helicase and topoisomerase. Next, one DNA polymerase produces the leading strand copy. Another DNA polymerase binds to the lagging strand. This enzyme makes discontinuous segments called Okazaki fragments before DNA ligase joins them together. DNA replication Cell division is essential for an organism to grow, but, when a cell divides, it must replicate the DNA in its genome so that the two daughter cells have the same genetic information as their parent. This enzyme makes the complementary strand by finding the correct base through complementary base pairing and

bonding it onto the original strand. These protein interactions can be non-specific, or the protein can bind specifically to a single DNA sequence. DNA-binding proteins Further information: Within chromosomes, DNA is held in complexes with structural proteins. These proteins organize the DNA into a compact structure called chromatin. In eukaryotes, this structure involves DNA binding to a complex of small basic proteins called histones , while in prokaryotes multiple types of proteins are involved. These non-specific interactions are formed through basic residues in the histones, making ionic bonds to the acidic sugar-phosphate backbone of the DNA, and are thus largely independent of the base sequence. In humans, replication protein A is the best-understood member of this family and is used in processes where the double helix is separated, including DNA replication, recombination, and DNA repair.

4: Opinion: Your DNA Is Not Your Culture | Eastman's Online Genealogy Newsletter

What is DNA? DNA, or deoxyribonucleic acid, is the genetic code, or blueprint, that plays a big part in defining who you are. Every cell in your body contains a copy of your DNA, which is essentially a microscopic set of instructions that determine what you look like and other personal traits.

What should you do once you receive your results? Align selection of upload sites with your genealogy and DNA research goals. Determine if there is a waiting period before results are available and check notification settings. So the first thing you should do is go to the DNA testing website, login, and then figure out how to download the data. You can access your raw genetic data within your 23andMe account one of two ways: Navigate directly to you. The main view of the Browse Raw Data feature shows the same pictorial representation of each chromosome â€" including a Y chromosome â€" for all users. Downloading Your Raw Data: You will receive an email to the email address associated with your 23andMe account when your raw data download file is ready. Typically files are ready within 1 hour. Ancestry Accessing Your Raw Data: Here is how to download your Ancestry DNA test data: Sign in to your Ancestry account. This will trigger an email containing a link to confirm the download. The link will expire after seven days. If the email is deleted or never arrives, please restart the process. Open the email and click Confirm Data Download. The file will be downloaded to your computer. Click on the data and build you wish to download. Here is how to download your Living DNA test data: If your results have been uploaded to your portal, we have therefore given you the ability to download that data in TXT format for autosomal markers and CSV format for mt and Y positive markers. Then in the left-hand menu you will see Download Raw Data. Clicking on this will give you some background information about your Living DNA raw data. We will then ask you to agree that you understand this information and the implications of downloading your raw data. A copy of this disclaimer is available here. Only after ticking the box will your download links be revealed. Find this email in your mailbox and click on the download link. The link is only valid for 24 hours. Once you clicked on the download link, you will be redirected to the MyHeritage site. The Matrix feature allows you to select and compare the autosomal DNA relationship between up to ten of your matches at one time. Access to matches and the DNA database is promised to me available around August In a future article, we will cover third-party sites such as GEDMatch and Promethease that accept DNA test data uploads and offer specialized services. The post content above contains affiliate links. This means I make a percentage of sales via these links. All prices and offers are subject to change. Some items may be sold out and have limited inventory. Also check to see if you have automated purchase settings enabled, such as Amazon Buy with 1-Click: I have material connections with various vendors and organizations.

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5: Is the secret to weight loss in your DNA?

DNA or deoxyribonucleic acid is a long molecule that contains our unique genetic code. Like a recipe book it holds the instructions for making all the proteins in our bodies. Your genome is made of a chemical called deoxyribonucleic acid, or DNA for short.

Your third cousin sold you out. Janet invited you over for a dinner and a couple of glasses of Savvy B with the girls. In between talking about your Bachelorette brackets and plans to dismantle the apparatus of the patriarchy, you all decided it would be a bit of fun to send your DNA off to one of those genealogy companies. But you politely declined. You, dear reader, the one with the holier-than-thou Angel of Privacy on your shoulder, you resisted the urge to spit in an envelope and sell that last, unchangeable part of your biological identity to a tech giant in Utah. You quietly sipped your sauvignon and watched as the girls swabbed their slimes. But I have terrible news for you. You can probably be identified in a DNA database anyway. DNA data storage could solve a big problem 7: And that figure is growing. So the stakes are high. Millions of people have already filled the DNA filing cabinets at these companies. Some of them do it to screen for disease risks. Some, to find long-lost family members. And some people no doubt just want to find an easy way to finish the stupid history project Mrs. Wilson assigned them in the 10th grade. Whatever the reason, the industry is booming. Ancestry alone says it has DNA-tested more than 10 million people. All that matters is your third cousin wanted to send her most deeply personal data to a company on the internet. The genealogy sites themselves are keen to reassure customers that privacy is their No. Those things that once made us human are becoming easier to quantify, track and replicate. Our voices can be perfectly re-created by computers , our mannerisms can be copied by artificial intelligence. Cameras on the street track our faces , speakers in our homes listen to our conversations , even our fingerprints are no longer just stored on our fingers. And soon, the very substance of our physical selves, our DNA, will be looked after by someone else. No thought of a potential future in which insurance companies scan your DNA without your knowledge to adjust your premiums, or your employer looks for potential health risks, or the police search for markers of pre-crime Minority Report was a documentary, right? Because I cannot have another in my life! I have given you my soul, and my passwords and my fingerprints; leave me my DNA! Originally published at 5: Added comment from 23andMe. Welcome to the crossroads of online life and the afterlife.

6: 3 Ways to Test Your DNA

The craze to know the secrets held by your DNA has hit home. One of my daughters expressed a Christmas wish for the popular kit that promises the answers to the riddles of your heredity.

October 21, Source: So how can you decode your DNA and find out exactly what your genome has to say about you? Get the results, complete with some analysis on what your DNA says about you. Sounds simple enough, right? Now, the process looks more like this: Take a DNA test. Get the raw data back. Upload it to another service for analysis. Get the results, with little, some, or copious interpretation, depending on the service you chose. It used to be that the same lab that tested your DNA would look at the results and tell you what they mean â€" but not anymore. Similarly, you have several choices of services to interpret the raw genetic data that your test will yield, including Promethease , Interpretome , LiveWello , and Genetic Genie. The concept was to build a wiki, modeled on Wikipedia, to keep track of what scientists were learning about each gene variant. While variants have been linked to risk of diseases, using genetic information to predict risk is an inexact science. That will make the industry difficult to regulate. When contacted by Technology Review, the agency said that it has the authority to regulate software that interprets genomes â€" even if the services performed with such software were given away for free. Technology Review reports that Interpretome sees 80 to visitors a day, and Promethease averages between 50 and reports each day. But assessing that risk completely would essentially require the interpretation of a language of which our current understanding is very incomplete. While services want people to able to understand their genetic data, the reality is that science still understands very little of the language of the human genome. But for many, some knowledge of what their genes hold is better than none, especially in the quest to know and quantify the self as deeply as is possible. More from Tech Cheat Sheet:

7: The 5 Best DNA Tests for Ancestry in - Which Testing Kit is Best & How to Choose

The nice thing about DNA is that it will never run outâ€"unlike that plate of cookies sitting on your counter. If you eat them all, no one else will get any.

Read Expert Review Share your experience with this company African Ancestry helps people identify where in Africa their ancestors were from. Read Expert Review Share your experience with this company Archives offers access to databases for genealogical research. You can also create an online family tree and purchase AncestryDNA. Archives is part of the Ancestry. Read Expert Review Share your experience with this company Findmypast is a genealogy search site with over two billion historical records, including the Register. Read Expert Review Share your experience with this company Fold3 has digitized documents related to the military going back as far as the American Revolution. Read Expert Review Share your experience with this company GenealogyBank provides subscribers access to over 7, digitized newspapers, as well as other genealogy records and resources. Read Expert Review Share your experience with this company The Genographic Project provides individuals with information about their ancestry and helps archaeologists study human migration. Not sure how to choose? Email Thank you, you have successfully subscribed to our newsletter! Enjoy reading our tips and recommendations. We value your privacy. Genetic ancestry tests can detect genetic markers that identify where your ancestors lived thousands of years ago, and health DNA testing can tell you about health problems you might develop or about traits you could pass on to your kids. To a certain extent, yes. Some DNA analysis services focus primarily on giving you information about your relatives and ancient ancestors. They use your genetic information to determine where your ancestors came from, and they may even help you find lost relatives. They can also tell you your carrier status for some genes, meaning whether you carry a gene that could cause problems for any children you have. Some companies give you all the raw data from your DNA test. You can upload this data onto other websites that will analyze it and give you additional information, like your genetic predisposition for certain diseases or how difficult it might be for your body to process certain medications. Weissman, a Certified Genetic Counselor at Chicago Genetic Consultants, cautions that results from third-party analysis can often show false positives for genetic markers associated with serious medical conditions, like breast cancer. People should never make changes to their health management without first consulting a genetic counselor. How accurate are DNA tests? DNA analysis continues to evolve; currently, some of the information that DNA tests provide is more accurate than other information. For example, DNA tests predict your eye color with a great deal of accuracy. Tests can also determine where your ancestors lived thousands of years ago with a fair degree of accuracy. Although certain tests provide additional health information, the accuracy of some results, like genetic health risks, is less certain. For specific, health-related information, you may want to talk to a genetic testing professional to understand fully the information that direct-to-consumer DNA tests can accurately provide. DNA genealogy testing sites: Is ancestry DNA testing accurate? In general, yes, and the more consumers who submit samples, the more accurate it becomes. DNA testing companies use their existing pool of DNA samples to provide each new customer with information. The more samples a company has, or the larger its customer base, the more accurate information it can provide. The diversity of the overall group also impacts accuracy, since a less diverse sample group will share more genetic traits. This is especially important for DNA testing for ethnicity. Although DNA testing sites will provide you with reports about genetic health risks and your carrier status for certain genes, that information may not be accurate. How much does a DNA test cost? In general, DNA tests to determine genetic ancestry are less expensive than ones related to your health. Some companies, like Helix, retain your DNA so you can pay for additional tests as they become available. The price for additional tests will probably depend on how complex additional analysis would be. Is DNA testing safe? Make sure to find and read the terms and conditions so that you know exactly what will happen to your DNA once you send it in. Whether the company that you use focuses on health information or details about your ancestors, the report will include medical information that should be kept private and secure. Many companies share your anonymized data with nonprofit groups doing DNA research to cure genetic diseases or sell it to for-profit

companies for pharmaceutical research. This means that your personally identifiable information is stored separately from your DNA test results, though, like with any online information, some hackers might still gain access to your info. Some companies get DNA ownership rights over your DNA sample and the analysis of it, meaning they can sell it to a pharmaceutical or medical company or share it with scientists. Some companies allow you to opt in or out of sharing your information in this way. That said, sharing your DNA can help researchers to get more data and reach their goals, leading to important scientific breakthroughs. For example, Orig3n is specifically interested in using DNA and blood samples to develop regenerative medicine. Depending on the services they offer and the reports they issue, DNA and ancestry companies can provide upsetting information to you. Geneticists in the healthcare field often require patients to go through counseling before receiving the results of genetic tests because of DNA testing risks. What public records do you need to research your family tree? Different kinds of sources will be useful for different types of information, so think about what information you want before purchasing a genealogy website membership. The most common public records used by ancestry websites include: Records from the U. Census provide information about where your family lived, what industries they worked in, what level of education they received and more. Marriage, birth and death certificates provide a better picture of your family tree than your relatives might be capable of giving you. You can get many of these public records if the ancestry website you choose includes the Social Security Birth Index and the Social Security Death Index. Perhaps your grandmother was a widow when she met your grandfather. Or maybe you have a great aunt who passed away in childhood. People with ancestors from England or Wales should choose an ancestry website like Findmypast that includes the Register. It has data similar to that from the U. Census but from England and Wales for the year These historical records could be helpful in finding distant cousins or other relatives even if your direct ancestors immigrated before How do ancestry DNA tests work? Genetic DNA tests can tell you about your ancient ancestors and more recent relatives. When you order a home DNA test, the company you choose will send you a test kit with a swab or tube for submitting a saliva sample. You mail back the kit, and then the company analyzes it to trace your lineage and find genetic patterns. Mitochondrial DNA and Y chromosomes can trace your maternal and paternal lineage. Analyzing one or both of these types of chromosomes, geneticists can see the DNA from your grandparent, great-grandparent, great-great-grandparent, and so on. When traced back far enough, this DNA indicates where your ancestors lived based on genetic patterns. The chromosomes that differ from person to person are how geneticists can use DNA to identify someone. Some differences are passed down through generations. How much do websites with family records cost? Some ancestry websites, like Fold3, offer a free membership that gives you a limited set of records. Most free genealogy websites allow you to access more databases when you pay for a subscription. Many genealogy research and family tree building websites have free trials, including Archives, Findmypast and MyHeritage. Use a free trial to determine whether you like a website before making a purchase. You can save money over time by purchasing a semi-annual or annual subscription. The fine print on membership agreements typically states that they will continue renewing your membership and charging you for it until you cancel. Only males can learn about their ancestry through Y chromosome testing. Women interested in learning more about their male lineage can ask a male relative to submit a DNA sample. Mitochondrial DNA testing is good for tracing your maternal lineage. Both men and women can learn about their ancestors from mitochondrial DNA testing. It includes thousands of individual genesâ€”the first chromosome alone contains 2, genes. Autosomal DNA testing can show where your ancient ancestors lived and help you with more modern genealogy through cousin matching. Females inherit one of these from each parent, while males inherit an X chromosome only from their mother. How to find your ancestors Top Talk to your relatives The best way to start your family history research is to talk to your relatives. They may have done some research on your family tree already, and they might be able to give you information that will help you choose the best ancestry website for your situation. Choose an ancestry website Choose an ancestry website for genealogy research based on what you know about your family history. For example, if one of your relatives served in the military, you might want to use Fold3 because it focuses on military records. If you find your family through one of these ancestry websites, they may be willing to share their own genealogy research with you and expand your knowledge of your ancestors.

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Expert reviews about DNA testing and ancestry websites.

8: Elizabeth Warrenâ€™s Native American DNA Results: What They Mean | DNAeXplained â€“ Genetic G

Parental phasing is the ability to divide your DNA into two parts based on your parent's DNA test(s). Two Chromosomes - You have two chromosomes, one from your mother and one from your father. DNA testing can't easily separate those chromosomes, so the exact same "address" on your mother's and father's chromosomes that you.

Will it give consumers much more protection though? Sites like 23AndMe offer genetic tests to consumers who send in a simple saliva swab. They can then use this to tell you about your ancestry and to let you know about genetic health risks. This includes three types: Genetic Data, by definition linked to an identifiable person, should not be disclosed or made accessible to third parties, in particular, employers, insurance companies, educational institutions, or government agencies, except as required by law or with the separate express consent of the person concerned. This document still leaves some privacy concerns. The companies have released the guidelines because genetic data is so sensitive, they say. Under the deal, the pharma giant gets access to de-identified data for research purposes. The guidelines released this week explain that none of the best practices apply to this de-identified data. Deidentified information is not subject to the restrictions in this policy, provided that the deidentification measures taken establish strong assurance that the data is not identifiable. In some cases, researchers can re-identify data. The guidelines recommend aggregating data before de-identifying it to make the protections strong enough. The guidelines mirror this policy, requiring express consent for: Onward transfer of individual level information i. What are vendors and service providers, just for the record? What kinds of company might that include? The best practice guide allows DNA and genealogy sites to give data to law enforcement when they ask for it. The most famous case is the Golden State Killer, a serial killer, rapist and burglar who was active from until This technique has also been used to find identity thieves , and other murderers and sex criminals. The use of DNA is raising concerns about privacy. On one hand, everyone wants to see killers and rapists jailed. On the other hand, people worry about misuse of the technology. Even GedMatch warned after the DeAngelo incident that people should understand the risks involved with submitting their personal genetic and genealogical data. Police officers have in the past forced companies to hand over genetic data as part of investigations, and California has a law that allows the state to collect DNA from any child or adult convicted of a felony or any adult arrested for a felony. Governments are using the data for other purposes, too. What does all this mean for people considering using these sites? The choice to participate in these services is always in the hands of the individual, but it should be an informed choice. As always consider how much of your own data that you want to expose and weigh the potential privacy risks against the benefits in this case, finding out more about your health and history. These are commercial sites, and in many cases could be making their use of the data far clearer. If you do decide to avail yourself of these services, make sure that you adjust the privacy settings in your account to reflect your wishes, rather than simply trusting that the vendor has your best interests at heart. Follow NakedSecurity on Twitter for the latest computer security news.

IS THAT YOUR DNA? pdf

9: How to Know What Your DNA Says About You

We use industry standard security practices to store your DNA sample, your DNA test results, and other personal data you provide to us. In addition, we store your DNA test results and DNA sample without your name or other common identifying information.

Because it does not rely on the 23rd chromosome, autosomal DNA tests can be done in both men and women with the same results. What is an autosomal DNA test? Remember that half our DNA comes from our father and half from our mother. Going back in generations, that means that roughly one-fourth of our DNA comes from each of our grandparents, one-eighth from each of our great-grandparents, and so on. The further you go back, the less DNA you have inherited from a particular ancestor, and the harder it is to prove that you are related. So autosomal DNA tests are only useful for about four or five generations. That means they could link you with relatives as distant as third or fourth cousins, but usually not more distant than that. This can be very useful if you know very little about your parents or grandparents, and are having a hard time locating living relatives. Many times, relatives located by the test are researching the same family lines as you, and you can share research with them. Autosomal DNA can also provide an estimate of your ethnicity, or the regions of the world where your ancestors lived within the past few hundred years, or even a thousand or more, since people used to move a lot less often. The companies that provide the testing divide the world up into 20 to 25 regions. They give an estimate of what percentage of your ancestry comes from each. This can provide additional clues on where to be searching for more of your family history. In fact, mtDNA changes extremely slowly â€” it might remain exactly the same for dozens of generations! Among other things, that means the test only has to examine about 16, genetic base pairs, instead of the 3. The test normally looks at only specific portions of the mtDNA and compares them to established samples. An mtDNA test will identify how closely related you are to a haplogroup. A haplogroup is basically a group of people with a single common ancestor. Historically, everyone living in the same region might belong to the same haplogroup, or very closely related ones. This means that your haplogroup can identify where your maternal line originated. It could also help you locate distant relatives, but some of them could be very distant. In some cases, mtDNA can remain nearly identical for 50 generations or more. While a perfect match means you are related, you might be 48th cousins! Women have two X-chromosomes, while men have one X and one Y. Y-DNA tests examine only the Y-chromosome. Because you can only get a Y-chromosome from your father, and he from his father, that means it tends to change very little over time. The first is a short tandem repeat STR test. The second is a single-nucleotide polymorphism SNP test. An STR test is often used to determine how closely two people with the same surname are related, if at all. The SNP test is more detailed, and among other things assigns you to a haplogroup. A haplogroup is a group of people with one common ancestor and who lived in one or more specific regions. Both Y-chromosome tests can help you locate relatives. But like mtDNA, because the Y-chromosome changes slowly, you might be related many generations back. And because the Y-chromosome is only passed down through males, the test can only tell you about your direct paternal line. Y-DNA testing is especially useful for adoptees as well as jewish ancestry. It all depends on what you want to know. Autosomal DNA For most genealogists, the autosomal DNA test is the clear winner, and it is the one test that every testing company offers. Because your autosomal DNA comes from all of your ancestors, this test is good for finding a range of ancestors and living relatives. It can also provide you with reasonable estimates of the ethnicity of your ancestors, or the regions of the world where they lived. The main drawback to autosomal DNA is that it gets so jumbled together after a few generations that it becomes unreliable the further you try to go back. Most of the time, an autosomal DNA test is only useful for about five generations â€” that is, to your great-great-great-grandparents. In terms of living relatives, that means it extends to your third cousins or maybe fourth cousins. Still, combined with websites that let you connect with close matches, autosomal DNA can provide some great leads on finding others who are researching the same family tree as you. You can use it to prove a common ancestor with someone else, but only in a direct maternal line. It can, however, trace that line back a very long way â€” sometimes 10, years or more. But it is less useful when finding living relatives.

The mtDNA test also tends to be more expensive. Y-DNA is most useful if you want to prove a connection to a certain ancestor. Say that you have a common surname, like Smith, and want to know if you are related to someone else named Smith. A Y-DNA can prove or disprove that the two of you are related. It can also tell you the ethnicity or region of origin of your paternal line. However, a woman can still find Y-DNA results by having a close male relative take it for her, such as her brother, father, paternal uncle, or cousin by a paternal uncle but not her son, since he got his Y-chromosome from his paternal line, not hers. In the same way, you can trace other paternal lines by asking an appropriate family member to take the test and share the results with you. Points of Origin and Ethnicity All three of the DNA tests can provide you with information on where your ancestors lived. But the information they provide varies from test to test. Y-DNA and mtDNA tests will link you to very specific genetic lines, but keep in mind, they represent only a fraction of your family tree. Autosomal DNA covers your entire family tree, but gets so mixed up after a few generations that it can only provide estimates. The companies that provide DNA testing divide the world up into regions in different ways. Most companies currently use regions, but the number, location, and names of regions vary from company to company. That means that two different testing companies may give you different ethnicity estimates for the exact same DNA. As more and more data get collected, companies update their regions, too. Some companies have had problems with their ethnicity estimates in the past. AncestryDNA , for example, used to be well-known for overestimating Scandinavian ancestry. When a company does improve its ethnicity estimates, your profile will automatically be updated, too. Chances are they will not email you with the update. Consider the case of Alsace-Lorraine, a 5, square mile region on the border of France and Germany. During the 17th and 18th centuries, it was annexed by France. In , following the Franco-Prussian War, it was annexed by Germany. Following World War I, it was returned to France. You can only say that your ancestors came from that region. Many people in the United States want to know if they have any Native American ancestry, and if so, from what tribes. An autosomal DNA test will provide an ethnicity report, but keep in mind it only goes back about five generations. The bad news is none of the tests can tell you what tribe your ancestors may have come from. And none of them can be used as proof of ancestry when it comes to applying for tribal rolls. The best any of them can say is the general region of North or South America where your ancestors likely lived. How is the DNA Collected? DNA is collected either with a cheek swab or a saliva sample, depending on which company you use. It will usually take six to ten weeks for your sample to be processed - but could take longer after the holidays since DNA tests are a popular gift. Depending on the company and the test, your results may include: See the table for a full comparison. Amazingly, you can even buy a test for your dog! It also lets women use the Y-DNA test by having a male relative take it for them. All of these sites offer autosomal DNA testing. All of them will provide you with a geographical breakdown of where your ancestors lived. Beyond that, each one has its pros and cons. Here are the top six options, listed based on how useful overall I think they are for genealogists. They have the most extensive database of DNA results for comparison and many other features for genealogists, but a few more drawbacks than Family Tree. Read our full AncestryDNA review.

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