The human genome is comprised of more than 3 billion DNA base pairs and 20,000 genes! Your genome is the entirety of your genetic code, or all the information that your body needs to make you who you are. The human genome is comprised of naturally occurring DNA and we now call that chromosomes. We know less about how the remainder of the genome affects our health and development, but our understanding will continue to increase. And while we can’t see our genome with the naked eye, if you stretched out all the genome contained in your body, it would reach to the moon and back 150,000 times!

Ask our Genetic Counselors

We still need 61% of GenomeConnect participants to update their account preferences and tell us if they would like to receive updates. Go to the GenomeConnect homepage and login. Then click “Update” under “Account Information.” We want to be sure we know your preferences. Please update your contact and sharing preferences to let us know if you would like to receive these updates. If you are having trouble updating your account, you also can email your answers. Scott@genomeconnect.org

Update your Preferences

By sharing your genetic and health information, GenomeConnect may learn if there is a potential update to your genetic testing results. You might have noticed that your genetic test results list one or more genetic changes, each with an “interpretation” (what the laboratory thought each change meant) in terms of health. Over time, as we learn more and more about genetic changes, interpretations may change.

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Timeline of Genetics

1865 Gregor Mendel, a monk in Austria, publish results of his experiments on pea plants and lays the foundation for modern genetics.

1869 Friedrich Miescher, a Swiss chemist, discovers that the acid extracted from nuclei of cells is different from other body tissues.

1904 Walter Sutton discovers that chromosome pairs are associated with the transmission of traits.

1909 Alfred Hirt identifies the first naturally occurring gene.

1910 James Watson and Francis Crick identify the helical structure of DNA.

1911 Marshall Nirenberg, Har Gobind Khorana, and Frederick Sanger independently develop a way to sequence DNA.

1923 Friedrich Miescher introduces the word “gene” and uses to describe what is passed from parent to offspring.

1937 The first artificial gene was manipulated in the lab to create a virus.

1943 Francis Crick and James Watson discover the structure of DNA.

1952 A faster, new technology called “next generation sequencing” was discovered.

1953 The US Supreme Court ruled that DNA cannot be patented.

1968 James Watson, Frederick Sanger, and Roald Hoffmann are awarded the Nobel Prize.

1977 Frederick Sanger develops a method to sequence DNA.

1983 The location of the first naturally occurring gene was mapped to chromosome 4.

1987 Kary Mullis invented the polymerase chain reaction (PCR) that allows us to create millions of copies of DNA. This technology called “next generation sequencing” was discovered.

2003 The Human Genome Project was completed. The project sequenced all 3 billion letters, or base pairs, in the human genome. The genome is the complete set of DNA in the body. The complete genome of a single human is used in clinical and research.

2014 The ClinGen website, a central resource of genes and genetic changes, was launched.

2013 The UCSC genome browser, a database of genetic changes, was launched.

2014 The 100,000 Genomes Project was completed. A faster, new technology called “next generation sequencing” was discovered.

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2020 A faster, new technology called “next generation sequencing” was discovered.

2021 The ClinGen website, a central resource of genes and genetic changes, was launched.

More research will help us continue to understand genetics and health.

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Timeline of Genetics

1. Timeline of Genetics
2. Update your preferences
3. Ask our Genetic Counselors

Table of Contents

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Read about some of the key events in the history of genetics.

2. Update your preferences

We want to be sure we know your preferences. Please update your account preferences and tell us if you would like to receive updates about your genetic testing results.

3. Ask our Genetic Counselors

What is the difference between your genome and your exome? Your genome is the entirety of your genetic code, or all the information that your body needs to make you who you are. The human genome is comprised of more than 3 billion DNA base pairs and 20,000 genes! Your exome is the approximately 1.5% of your genome that is the coding region. By sharing your genetic and health information, GenomeConnect will help us understand how our genome affects our health!

Ask our Genetic Counselors

To Update:

Please update your contact and sharing preferences to let us know if you would like to receive these updates. Go to the GenomeConnect homepage and login. Then click “Update” under "Account Information." Start down to Contact and Sharing Preferences and update your preferences.

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