

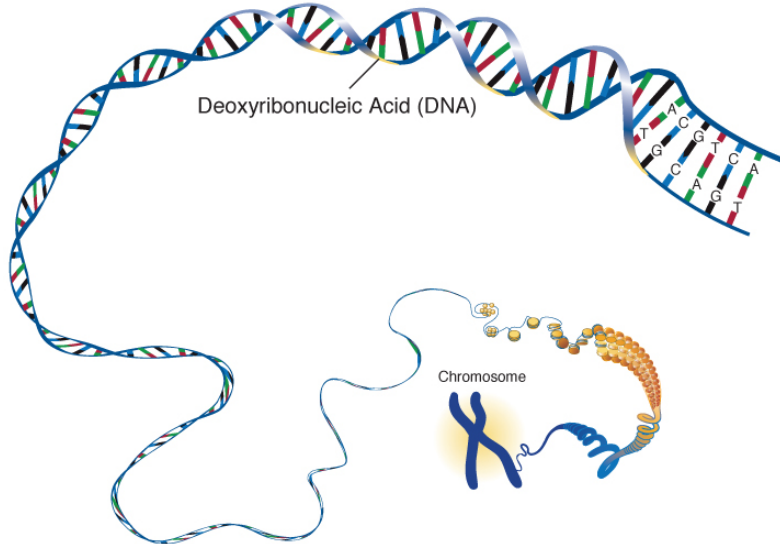


Introduction to genetics



SOME BASIC TERMS TO KNOW

- DNA- hereditary material, comprised of nucleotides (A,C,G,T)
- Genes- fundamental units of biological info, made of DNA
- Chromosomes- organized package of DNA, bearing genes along its length
- Genome- entire set of DNA instructions in a cell



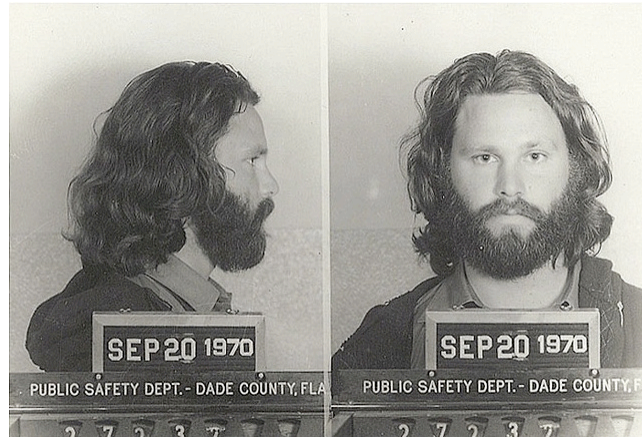
Genetics is cool!

- **Code** inside every cell of your body that affects how you look/ feel/ learn/ interact/ etc.
 - Including how long you' ll live and what diseases you may have
- Decoding it helps us understand
 - Ourselves
 - Pets/ livestock/ pests/ parasites
 - Evolution!



“DNA testing” in the recent past

- Paternity tests— who’s your daddy?
- Criminal investigations
- Forensics



Personal genotyping services



- Individuals pay companies to study their DNA (often from saliva), to discover...



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Personal genotyping services

For One Price:

Ancestry

Reveal the magic in your DNA, and understand your ancestral history using:

- Relative Finder
- Global Origins
- Ancestral Lineages

Health

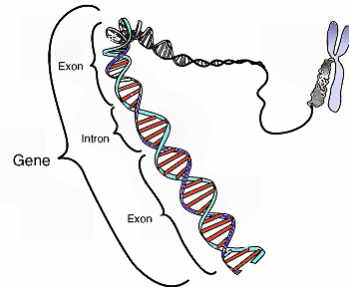
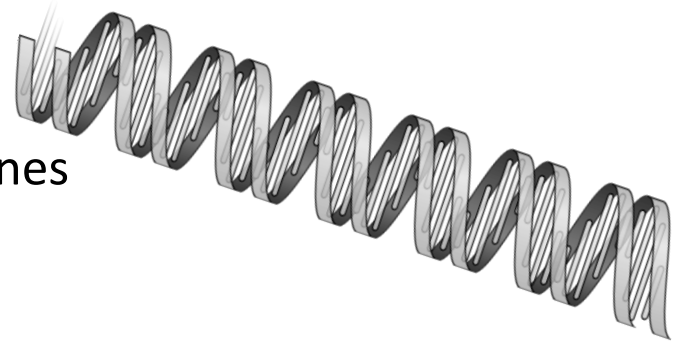
Understand how your genes impact your health.

- Carrier Status
- Disease Risk
- Drug Response



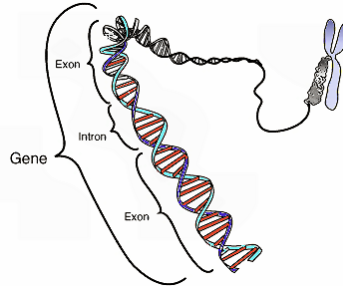
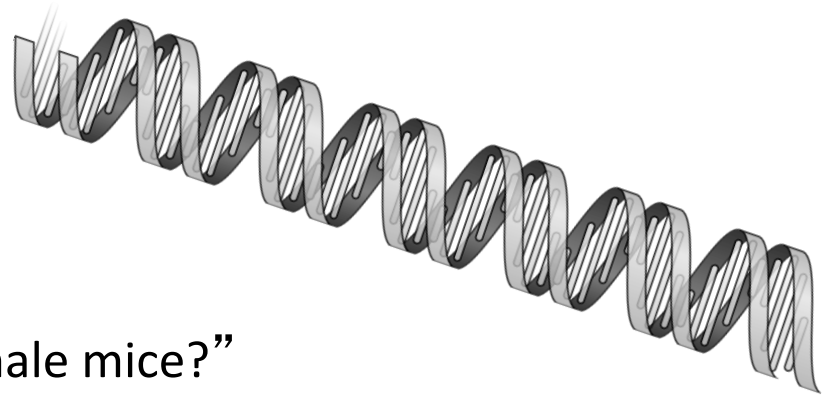
Disease genes in the news

- Gene Increases **Diabetes** Risk, Scientists Find
 - 16 Jan 2006, NY Times
- Researchers find big batch of **breast cancer** genes
 - 28 May 2007, CNN
- Scientists spot genes behind **heart disease**
 - 18 July 2007, Washington Post
- Rare genetic mutation protects against **Alzheimer's**
 - 11 July 2012 BBC News



Other genes in the news

- '**Fat**' gene found by scientists
 - 13 April 2007, The Times
- Gene for **left-handedness** is found
 - 31 July 2007, BBC News
- “Has the ‘**gay** gene’ been found in female mice?”
 - 14 July, 2010, Popular Science
- **Lean** gene ‘linked to heart risk’
 - 27 July 2011, BBC News



... but then there's some “raging debate” about Nature vs Nurture



... and the genes don't always hold up...

- 18 January 2007, ABC News: Scientists Debunk So-Called 'Fat Gene'
 - CNN: Exercise blocks effect of fat gene
- 8 January 2008, NY Times: Breast Cancer Gene Risk May Be Overstated

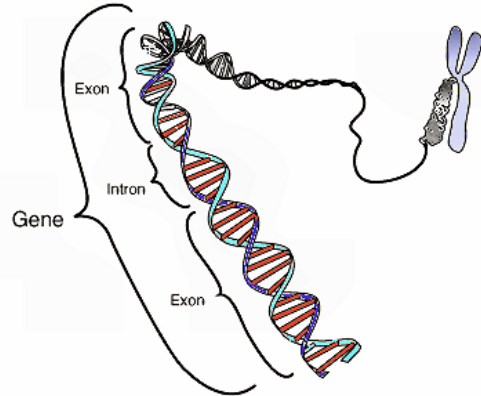


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