Ancestral DNA Data

Results for David Ewing Duncan:
Blood tests, spit tests, and buccal swabs

These tests link to the Experimental Man chapter "Rollo the Viking and me", pages 72-86.

Contents:

Sources of DNA collection and analysis

deCODEme: Tested in 2007.
23andme:Tested in 2008.
Family Tree DNA: Tested in 2007.
Oxford Ancestors: Tested in 2001.

General reading and sources

Spencer Wells, The Journey of Man: A Genetic Odyssey, Random House, 2002

The National Geographic's Genographic Project Online

Bryan Sykes, *The Seven Daughters of Eve* (New York: W. W. Norton, 2001)

"Frequently Asked Questions: How Does the Ancestry Tracing Work?"
DeCodeme website

[Family Tree DNA Website]

Geneticist Bruce Walsh of the University of Arizona in Tucson has an excellent series of tutorials on his [Website], cosponsored by Family Tree DNA (Walsh is a scientific adviser to the company)

Sources on Duncan Genealogy

Book link: pages 79-85.

Katherine Duncan Smith, *The Story of Thomas Duncan and His Six Sons* (New York: Tobias A. Wright, 1928).

[Clan Donnachaidh DNA Project]

This site is one of many surname sites linked to Family Tree DNA that focuses on the Duncan family ancestry.

Author Results

Book link: pages 73-87

Summary (Explanations below)

Ancestral DNA:		
	Gene	**Author Results**
Ancestry	mtDNA* (1)	H
Ancestry	Y Chromosome	R1B
European	Chromosomes 1-22	95%
Asian	Chromosomes 1-22	3%
African	Chromosomes 1-22	2%
European	X Chromosome	87%
Asian	X Chromosome	11%
African	X Chromosome	2%

*mitochondrial DNA

Table: Summary of primary tests and results (explanations below).

Mitochondrial DNA

Book link: pages 85-87.

Result: Author is part of Mitogroup H.

The following is from the deCODEme website, used with permission.

Mitochondrial DNA is inherited only from mother to child. Ultimately, all humans can trace their mitochondrial DNA to a single female ancestor, named "Mitochondrial Eve", who lived in Africa some 190 thousand years ago. The image above represents the genealogical tree that links all humans to Mitochondrial Eve, which we trace ancestry only through the female line. The full genealogical tree can be broken down into subgroups of especially closely related mitochondrial DNA, called mitogroups. These mitogroups are like extended families within the full genealogical tree. People with mitochondrial DNA from the same mitogroup have a common ancestor in the female line that is much more recent than mitochondrial Eve. Each mitogroup therefore represents a particular female ancestor, who lived long ago and links the members of that mitogroup to Mitochondrial Eve.

In addition to the DNA contained in chromosomes in the nucleus, human cells also contain a small circular chain of DNA called mitochondrial DNA (mtDNA). This DNA is stored in the energy sources of the cell called mitochondria. While both men and women have mtDNA, this genetic material is passed down to the child solely from the mother. Unlike the DNA in autosomal chromosomes, of which only small pieces can be traced back to ancient ancestors, mtDNA is inherited from the mother in one piece. In the vast majority of cases, the mtDNA of a mother and her children will be exactly the same. Very rarely, the mtDNA of a mother and her child will differ, usually at only a single point - the result of a single mutation.

If no mutations had ever occurred in mtDNA, then all humans would carry identical mtDNA. In reality, the gradual accumulation of single mutations in mtDNA throughout human history makes mtDNA a very useful tool to trace a person's ancestry through the female line. Your mtDNA will typically be identical to that of your ancestors for the first 10-15 generations, but the further you go back to more distant ancestors in your female line, the more differences you will find between your mtDNA and your ancestors' mtDNA.

Due to its peculiar mode of inheritance through the mother, mtDNA can be used to determine the genealogical relationship between two or more individuals living today. If two individuals share a very recent ancestor in their female lines, they will tend to have either identical or very similar mtDNA. In contrast, two individuals whose most recent common ancestor in their female lines lived tens of thousands of years ago will tend to have very different mtDNA. Basically, the more differences between two individuals mtDNA means that more time has passed since their female lines branched off from a common ancestor.

All members of mitogroup H can trace their mitochondrial DNA to one woman who is thought to have lived about 30 thousand years ago, probably somewhere in the Near East. This woman belonged to a group of hunter-gatherers that colonized Europe thousands of years before the agricultural revolution that occurred about 10 thousand years ago. This was part of a series of human migrations that are thought to be associated with the spread of the Upper Paleolithic (Stone Age) Aurignacian culture . Around 20 thousand years ago, cold temperatures during the last Ice Age led early Europeans to retreat to the warmer climates of the Iberian Peninsula, Italy and the Balkans. Beginning about 15 thousand years ago, after the ice sheets began to retreat, the descendants of these groups moved north again. The legacy of the female ancestor of mitogroup H is quite astounding, as almost half of all contemporary European populations are members of mitogroup H and therefore are descendants of this woman in the direct female line. Moving eastward from Europe, the frequency of mitogroup H members decreases gradually to less than 20 percent in Central Asia, the Near East, India and Central Siberia, but becomes very low beyond Pakistan and India.

Selected Sources:

The National Geographic's Genographic Project Online

Roostalu et al. (2007)."Origin and Expansion of Haplogroup H, the Dominant Human Mitochondrial DNA Lineage in West Eurasia: The Near Eastern and Caucasian Perspective." *Mol Biol Evol* 24(2):436–448.

Sahoo and Kashyap (2006)."Phylogeography of Mitochondrial DNA and Y-Chromosome Haplogroups Reveal Asymmetric Gene Flow in Populations of Eastern India." *Am J Phys Anthropol* 131:84-97.

Simoni et al. (2000)."Geographic Patterns of mtDNA Diversity in Europe." *Am J Hum Genet* 66:262-78.

Loogväli et al. (2004)."Disuniting uniformity: a pied cladistic canvas of mtDNA haplogroup H in Eurasia." *Mol Biol Evol* 21(11):2012-21.

Dan Mishmara et al., "Natural selection shaped regional mtDNA variation in humans", PNAS, January 7, 2003, vol. 100, no. 1, 171–176.

Y Chromosome

Book link: pages 74-78.

Result: Author is part of the Y-Group R1b

The Y-group R1b is a part of the super-Y-group P. All members of Y-group R1b can trace their Y-chromosomes back to one man who is thought to have lived about 35,000 years ago. This man may have belonged to a group of hunter-gatherers, who were among the first modern humans to colonize Europe. Such groups likely took refuge in Northwestern Spain during the last Ice-Age, when most other parts of Europe were uninhabitable.

When the Ice-Age waned, between 10 and 15 thousand years ago, the descendants of these groups are thought to have expanded into previously uninhabitable regions of Europe. Today, members of Y-group R1b are primarily found in European populations, where it is the most common Y-group. In Europe, the highest concentration of Y-group R1b members is in the west, in the British Isles and the Iberian Peninsula, where it accounts for 60 to 70 percent of all males. The frequency of Y-group R1b members decreases as we move further east within Europe and becomes negligible east of Central and South Asia. National Geographic: The Genographic Project

Selected Sources:

Cruciani F et al. (2002)."A back migration from Asia to sub-Saharan Africa is supported by high-resolution analysis of human Y-chromosome haplotypes." *Am J Hum Genet* 70(5):1197-214.

Semino O et al. (2000)."The genetic legacy of Paleolithic Homo sapiens sapiens in extant Europeans: a Y chromosome perspective." *Science* 290(5494):1155-9.

Haplotype Matches

Book link: pages 78-79.

This is a list of Y-chromosome haplotypes – genetically similar group – matches for the author, in order of the closest match (Scottish) to the least closest match (San). The order of these matches roughly corresponds with my ancestors' movements out of Africa into the Near East, Russia and Europe over the past 190,000 years.

"HAPLOTYPE MATCHES: AUTHOR

1. Orcadian (Scottish)
2. French
3. Basque
4. Tuscan
5. Italian
6. Russian
7. Sardinian
8. Adygei
9. Druze
10. Pathan

11. Burusho
12. Brahui
13. Kalash
14. Uygur
15. Balochi
16. Sindhi
17. Bedouin
18. Hazara
19. Makrani
20. Mozabite
21. Tu
22. Mongola
23. Xibo
24. Daur
25. Oroqen
26. Cambodia
27. Maya
28. Hezhen
29. Yi
30. Japanese
31. Naki
32. Han
33. Tujia
34. Miao
35. She
36. Dai
37. Lahu
38. Pima
39. Colombian
40. Karitiana
41. Melanesian
42. Surui
43. Papuan
44. Bantu Kenya
45. Mandenka
46. Yoruba
47. Bantu South Africa
48. Biaka Pygmy
49. Mbuti Pygmy
50. San (Bushmen)

Source: To come

Family Tree DNA Results

DuBose Family: Comparison of Y-Chromosome

Book link: pages 74-79.

The author's mother comes from the DuBose family, which traces its ancestry back to Normandy in France.

Family Tree DNA ran a comparison of the DNA of the author's uncle and Michel DuBosc of Normandy. The results were that eight out of twelve DNA markers were identical, but four were different. This means that these two men have a 90 percent chance of having the same ancestor in the past 500 years. *More to come on this in the next few weeks*.

FAMILY TREE DNA: Y-CHOMOSOME PANEL (1-12)												
Locus	1	2	3	4	5	6	7	8	9	10	11	12
DYS#	39 3	39 0	19 *	391	385a	385b	426	388	439	389-1	392	389-2
Michel DuBosc	13	24	**15**	11	12	**14**	12	**13**	**13**	13	13	29
Robert DuBose	13	24	**14**	11	12	**15**	12	**12**	**12**	13	13	29

Table: A comparison between two men of 12 Y-chromosome markers associated with ancestry. The result: a 90% probability that the two men are descended from a common ancestor approximately 500 years ago.

Duncan Family: Comparison of Y-Chromosome

Book link: pages 83-87

Coming soon

Duncan Genealogy: 1729-Present

Book link: pages 83-85.

Family Tree DNA discovered a genetic match between the author and Kathy Duncan Crawley of New York City. The author and Cathy are descended from the same great-great-great-great grandfather, Samuel Duncan (1778-1819), of Shippensburg, Pennsylvania.

Family Tree: Comparison of David Ewing Duncan and Kathy Duncan Crawley

THOMAS DUNCAN
b. before 1729, Scotland (possibly b. 1686)
d. 1776, Pennsylvania
|
DANIEL DUNCAN (5 other siblings)
b. before 1769, Pennsylvania
d. before 1791, Pennsylvania
|
SAMUEL DUNCAN (7 other siblings)
b. 1778, Shippensburg, PA
d. 1819, Uniontown, PA
|

<u>David's Line</u>	**<u>Kathy's Line</u>**
JOHN KENNEDY DUNCAN ------ b. 1803, Pennsylvania d. Unknown	SAMUEL DUNCAN b. 1816, Pennsylvania d. 1893, Oakland, CA
(8 other siblings)	
|	|
NATHANIEL EWING DUNCAN b. 1835, Pennsylvania d. 1897, Kansas City, MO	ROBERT LONG DUNCAN b. 1835, Pennsylvania d. 1878, Dakota Territory
|	|
WILLIAM HENRY DUNCAN b. 1881, Kansas City, MO d. 1954, Kansas City, MO	ROBERT DUNCAN b. 1859, Iowa d. 1946, South Dakota
|	|
HERBERT EWING DUNCAN, SR. b. 1904, Kansas City, MO d. 1971, Kansas City, MO	EARL DUNCAN b. 1892, Idaho d. 1971, South Dakota
|	|
HERBERT EWING DUNCAN, JR. b. 1931, Kansas City, MO	WILLIAM DUNCAN b. 1927, South Dakota d. 1969, San Diego, CA
|	|
DAVID EWING DUNCAN b. 1958, Kansas City, MO	KATHY DUNCAN CAWLEY b. 1954, South Dakota
|	|
SANFORD (1986) DANIELLE (1988) ALEXANDER (1994)	WILLIAM (1985) KAITLYN (1989)

MUCH MORE ANCESTRY DATA WILL BE COMING SOON!