

Towey Y-DNA Project

DNA is Deoxyribonucleic Acid

How closely are we related !!!

July 31, 2010

Towey DNA tests are conducted through www.FamilyTreeDNA.com

www.toweyclan.com

Haplogroup R Modal STR Markers

Location	Towey Initials	Haplo group	393	390	19	391	385a	385b	426	388	439	389-1	392	389-2	458	459a	459b	455	454	447	437	448	449	464a	464b	464c
Ui Neill Signature Markers >>			13	25	14	11	11	13	12	12	12	13	14	29	17	9	10	11	11	25	15	18	30	15	16	16
IRE	Mike	R1b1b2	13	25	14	11	11	13	12	12	12	13	14	29	17	9	10	11	11	25	15	18	30	15	15	16
USA	Richard	R1b1b2	13	25	14	11	11	13	12	12	12	13	14	29	17	9	10	11	11	25	15	18	30	15	15	16
USA	Daniel	R1b1b2	13	25	14	11	11	13	12	12	11	13	14	29	17	9	10	11	11	25	15	18	30	15	15	16
USA	Charles	R1b1b2	13	25	14	11	11	13	12	12	13	13	14	29	17	9	10	11	11	25	15	18	31	15	15	16
USA	Sean	R1b1b2	13	25	14	11	11	13	12	12	12	13	14	29	17	9	10	11	11	25	15	18	30	15	15	16
USA	James	R1b1b2	13	25	14	11	11	13	12	12	13	13	14	29	17	9	10	11	11	25	15	18	30	15	15	16
ENG	John	R1b1b2	13	25	14	11	11	13	12	12	12	13	14	29	17	9	10	11	11	25	15	18	30	15	15	16
ENG	Peter	R1b1b2	13	24	14	11	11	12	12	12	13	13	13	29	16	9	10	11	11	25	16	19	29	15	15	17
Marker Agreement Ui Neill			All	7	All	All	All	7	All	All	4	All	7	All	7	All	All	All	All	All	7	7	6	All	None	7

Haplogroup R Modal STR Markers (continued)

Location	Towey Initials	Haplo group	460	GAT A H4	YCA II a	YCA II b	456	607	576	570	CDY a	CDY b	442	438
IRE	Mike	R1b1b2	11	11	19	23	17	16	17	18	39	39	12	12
USA	Richard	R1b1b2	11	11	19	23	17	16	17	18	39	40	12	12
USA	Daniel	R1b1b2	11	11	19	20	17	16	17	18	39	39	12	12
USA	Charles	R1b1b2	12	10	19	23	17	16	17	18	39	39	12	12
USA	Sean	R1b1b2	11	11	19	22	17	16	17	18	39	39	12	12
USA	James	R1b1b2	11	11	19	23	17	16	17	18	40	40	12	12
ENG	John	R1b1b2	11	11	19	23	16	16	17	18	39	39	12	12
ENG	Peter	R1b1b2	11	11	19	22	14	15	19	16	37	38	12	12
Marker Agreement Mike			6	6	All	4	5	6	6	6	5	4	All	All

Footnotes:

Italic markers are the most important.

Ui Neill markers represent descendents of Nail of The Nine Hostages.

Nail was a fierce Irish "High King" at Tara, the ancient center of Ireland, from 379 to 405.

Match of all or most important markers assures descendance from Ui Neill.

Gray identifies markers that differ from Ui Neill Signature markers.

Light Gray identifies markers that differ from Mike. Mike is Irish; Richard is Irish and German

Towey Y-DNA Project (Deoxyribonucleic Acid)

Purpose: To provide an understanding behind the DNA tests, particularly the Y-DNA tests as they relate to Toweys and their Irish heritage. Warning: Scientific terminology used herein is not explained in this document.

Typical Y-DNA Markers: Following chart displays DNA values for the Ui Neill or NW Ireland modal.

		Haplogroup R Modal STR Markers																							
Haplo group R1b1b2	3	3	1	3	3	3	4	3	4	3	3	3	4	4	4	4	4	4	4	4	4	4			
	9	9	9	9	8	8	2	8	3	8	9	8	5	5	5	5	5	4	3	4	4	6	6		
	3	0		1	5	5	6	8	9	9	2	9	8	9	9	5	4	7	7	8	9	4	4	4	
					a	b					-1	-2		a	b							a	b	c	d
Haplogtype Allele Value	13	25	14	11	11	13	12	12	12	13	14	29	17	9	10	11	11	25	15	18	30	15	16	16	17

Shaded markers and values are most important markers

Male Y-DNA Testing

Many Toweys had Y-DNA tests that bridged gaps in our Towey genealogies. The STR tests of Towey Y-DNA show that most of us tested are genetically close to the Ui Neills of Co. Tyrone – i.e., along with about 20 percent of all other Irish males, we probably descend from Niall of the Nine Hostages. Nail was a fierce Irish “High King” at Tara, the ancient center of Ireland, from 379 to 405.

Explanations:

DNA, or deoxyribonucleic acid, is the hereditary material in humans and other organisms. Most DNA (**Y-DNA**) is located in the cell nucleus called nuclear DNA, but a small amount may be found in the mitochondria or **mtDNA**. We inherit half our nuclear DNA from the male parent and half from the female parent. However, we inherit all **mtDNA** from the female parent. This occurs because only egg cells, and not sperm cells, keep their mitochondria.

Y-DNA tests generally examine 10 to 67 **STR (short tandem repeats)** markers on the Y chromosome, but over 100 markers are available. **STR** test results provide the personal **haplotype**. **SNP (single-nucleotide polymorphism)** results indicate the **haplogroup**.

Haplogroup: Haplogroups define genetic populations and are often geographically oriented. Y chromosome consortium defines Y-DNA **haplogroups** by letters A through T, with further subdivisions using numbers and lower case letters. Y-DNA **haplogroups** are determined by SNP tests. SNPs are locations on the DNA where one nucleotide has "mutated" or "switched" to a different nucleotide.

STR markers: A Y-chromosome contains sequences of repeating nucleotides known as **short tandem repeats (STRs)**. The number of repetitions varies from one person to another. Individual **Y-DNA** sequences or **STRs** which have proved useful in genealogical DNA work are called **markers**, and each has a name, such as **DYS393**. **DYS** means a **Y-DNA** unique **Sequence [or Segment]** while 393 is this sequence's identification number. For each marker there is a value. For example, if the STR marker **DYS393** sequence of nucleotides is repeated 12 times it is given the allele value 12.

SNP markers: A **single-nucleotide polymorphism (SNP)** is a change to a single nucleotide in a DNA sequence. The relative mutation rate for an SNP is extremely low. This makes them ideal for marking the history of the human genetic tree. **SNPs** are named with a letter code and a number. The letter indicates the lab or research team that discovered the SNP. The number indicates the order in which it was discovered.

Y-DNA: A man's patrilineal ancestry, or male-line ancestry, can be traced using the DNA on his Y chromosome (Y-DNA) through Y-STR testing. This is useful because the Y chromosome passes down almost unchanged from father to son, i.e., the non-recombining and sex-determining regions of the Y chromosome do not change. A man's test results are compared to another man's results to determine the time frame in which the two individuals shared a most recent common ancestor (MRCA). If their test results are a perfect, or nearly perfect match, they are related within genealogy's time frame. For example, with the same surname a perfect 37/37 marker test match gives a 95% likelihood of the most recent common ancestor (MRCA) being within 8 generations, while a 111 of 111 marker match gives the same 95% likelihood of the MRCA being within only 5 generations back.

mtDNA: A direct maternal ancestor can be traced using mtDNA. mtDNA is passed down by the mother unchanged, to all children. A perfect match that is found to another person's mtDNA test results indicates shared recent ancestry. More distant matching to a specific haplogroup or subclade may be linked to a common geographic origin.

Some Y-chromosome Haplogroups

Haplogroups presently range from A to T. Examples of haplogroups are:

Haplogroup	Possible time of origin	Possible place of origin
R	20,000 years ago	Central Asia
J2	15,000 years ago	Northern Mesopotamia
I2b1	9,000 years ago	Central Europe
I1	5,000 years ago	Scandinavia
I2b1a	< 3,000 years ago	Britain

Haplogroup R (including Irish) is defined by the SNP M207. "R1b", "R1b1", and so on are family tree based names which explain the branching of the family tree of R1b. For example R1b1a and R1b1b would be branches of R1b1, descending from a common ancestor. These names can change with new DNA discoveries.

R1b probably originated in Central Asia 20,000 years ago. It is the dominant haplogroup of Western Europe and also found sparsely distributed among various peoples of Asia and Africa. Its subclade R1b1b2 (SNPs M269, S3, S10, S13, S17, L265) is the haplogroup typical of populations of Western Europe (including Ireland) and Perm region of Russia, with a moderate distribution throughout Eurasia.