

**Contact Irish Origenes for a FREE CONSULTATION**

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## **Case Study**

# **Pinpointing the Kernan Irish Paternal Ancestral Genetic Homelands**

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**Dr Tyrone Bowes**  
**27<sup>th</sup> January 2021**

### INTRODUCTION

A simple painless commercial ancestral Y chromosome DNA test will potentially provide one with the names of many hundreds of individuals with whom one shares a common male ancestor, but what often perplexes people is how one can match lots of individuals with many different surnames? The answer is quite simple. Roughly 1,000 years ago, one's direct medieval male ancestor, the first for example to call himself 'McKiernan' was living near others with whom he was related but who inherited other surnames like McNaboe, Masterson, and McGovern. Given that 1,000 years have passed since paternally inherited surnames were first adopted, there will be many descendants of those individuals some of whom will today undergo commercial ancestral Y-DNA testing. Hence the surnames of one's medieval ancestor's neighbours will be revealed in today's Y-DNA test results.

Surnames in Ireland can still be found concentrated in the areas where they first appeared, or in the area where one's ancestors first settled. One can therefore use census data to determine the origin of the surnames that appear in one's Y-DNA results, identifying an area common to all, and reveal one's '**Paternal Ancestral Genetic Homeland**.' The paternal ancestral genetic homeland is the small area (usually within a 5-mile radius) where one's ancestors lived for hundreds if not thousands of years. It is the area where one's ancestor first inherited his surname, surrounded by relatives who inherited others. It is the area where one's ancestors left their mark in its placenames, its history, and in the DNA of its current inhabitants. Since modern science can pinpoint a paternal ancestral genetic homeland it can also be used to confirm it by DNA testing individuals from the pinpointed area.

#### Notes of caution!

1. Each of the estimated 1,500 unique Irish surnames had a single founding ancestor, that is an estimated 1,500 'Adams' from whom anyone with Irish paternal ancestry (and with one of those unique surnames) can trace direct descent. But science has demonstrated that only 50% of individuals with a unique Irish surname will be related to their surnames founding ancestor (*the surname-Adam*), the other 50% of males will have an association that has arisen due to 'non-paternal events,' usually a result of adoptions or maternal transfer of the surname.
2. Often people are looking for their DNA results to trace back to a specific area. One must remember that the results typically reflect one's ancestor's neighbours from around 1,000 years ago. As a result, if one's Irish paternal ancestor was descended from a Viking raider, Norman, or Plantation settler, then one's Y-DNA results may reflect earlier English, Welsh, French, and possibly Scandinavian origin. One must approach this process with an open mind!

## Kernan – An Irish Origenes Y-DNA Case Study

### Interpreting the Y-DNA test results

To pinpoint a paternal ancestral genetic homeland, one must first identify the surnames that appear as one's closest genetic matches upon commercial ancestral Y-DNA testing. Those surnames, particularly those that recur among one's closest genetic matches, will reflect the surnames of one's medieval ancestral neighbours. Mr Kernan's closest and most frequent genetic surname matches as revealed by commercial ancestral Y-DNA STR and SNP testing are revealed in **Figures 1, 2 and 3**.

111 Marker Matches							
Genetic Distance	Last Name	Earliest Known Ancestor	Y-DNA Haplogroup	Terminal SNP	Match Date	Big Y STR Differences	Big Y STRs Compared
1	Kiernan	Hugh Kiernan	R-A5902	A5902	6/28/2019		
3	McDermott	McDermott/Grenan/Carlisle	R-A260	A260	9/13/2015		
4	Masterson	John Masterson, m. 27 Feb. 1775, Lusk, Co. Dublin.	R-M269		12/20/2019		
6	King		R-A260	A260	4/5/2016		
6	Fannin	Bryan Fannin, b. 1695 and d. 1765	R-A5902	A5902	8/30/2013		
7	Sweeney		R-BY13838	BY13838	10/22/2020	11	576
7	Sweeney	James Thompson	R-FT315267	FT315267	1/3/2020	17	592
7	Keirns	Jonathon Keirns b 1761	R-M269		12/19/2020		
7	Gaffney		R-M269		8/9/2019		
7	Duffy	Lawrence Duffy, b. 1856, d. 1910	R-M269		7/26/2019		
7	Kierns	William Kierns, b. 1895	R-M269		1/19/2018		
7	Gaffney	Thomas Gaffney, 1814 England - c. 1900 USA	R-M269		1/25/2016		
7	Early	Michael Early, 1824-1893	R-M269		7/2/2015		
7	Gaffney	Barth Gaffney	R-M269		11/19/2014		
8	Hawley	Andrew Hawley b. 1802 and d. 1865 West Virginia	R-BY38400	BY38400	2/2/2018	8	522
8	Turner		R-FGC55175	FGC55175	6/27/2019	9	611
8	Devine	Martin Devine, b. 1805 and d. 1884	R-BY167936	BY167936	7/16/2018	16	495
8	Costigan	Bernard McGovern b. 1874 Fenagh Beg, Leitrim	R-BY38391	BY38391	8/15/2013	17	617
8	O'Brien	Patrick Gaffney, b. 1857 and d. 1926	R-M269		7/9/2018		
8	Fannon	Charley Bryan Fannon b 1896 Inez, Martin Co., KY.	R-M269		1/14/2016		
8	Fanning	Bryan Fanning, b. c1698 and d. 1765 VA	R-M269		8/14/2015		
8	Byrne	Patrick Byrne, b. c1814 and d. 1896	R-A887	A887	8/15/2013		
8	Bartley	James W. Bartley	R-A260	A260	8/15/2013		
9	Duffy	Michael Duffy b 1820-1825	R-FT101173	FT101173	12/28/2018	10	573
9	Duffy	Daniel Duffy, b. about 1835 and d. 1880	R-FT101173	FT101173	5/4/2020	12	612
9	Black	Black	R-BY66378	BY66378	9/21/2018	15	588

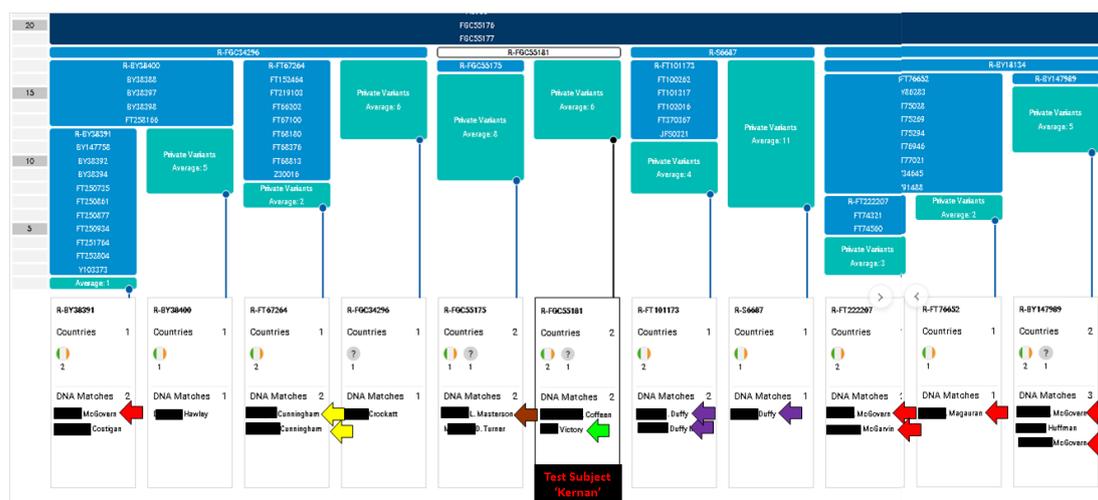
**Figure 1:** Snapshot of test subject Kernan's closest genetic surname matches as revealed in a Y-DNA STR database. The more Y-DNA STR markers two people share, the more recent their shared paternal ancestor once lived. The test subject's closest genetic surname matches are **NOT RANDOM**; they are dominated by individuals with exclusively **Irish** or **Irish-associated** surnames or with earliest recorded ancestral links with **Ireland**. The test subject also matched another male named 'Kiernan' (**black arrows**) together with others with surnames like Fannin/Fannon/Fanning (**orange arrows**), Duffy (**purple arrows**), Sweeney (**yellow arrows**), and Gaffney (**blue arrows**) that recur among his matches. Highlighted font indicates each surnames associated ethnicity, or the location of an earliest paternal ancestor; **Irish/Ireland**, **Irish-associated**, **English/England**.

Test Subject	Haplogroup	Y-DNA Test Results								
		111 Marker Matches								
		Genetic Distance								
		1	3	4	6	7	8	9	10	
Kernan	R-M222									Clark(x11) Williams(x9) McGovern/McGauran(x7) Bingham(x6) McDaniel/McDaniel(x6) Gray/Grey(x5) Brown(x4) Dolan(x4) Johnson/Johnston(x4) Beene/McBain/McBean(x4) Cornolly/Cornelly(x4) Cunningham(x3) McLean(x3) Murphy(x3)
		Kiernan					Sweeney/McQueeney(x9)	Turner(x3)		
		/McKiernan	McDermott(x3)			Fannin	Keirns/Carnes/kierns/	O'Brien(x8)	Black(x4)	
		/McCurran(x2)		Masterson(x12)		/Fanning	McCairns/Kerns(x7)	O'Byrne/Byrne	McCaffery/Caffrey	
						/Fannon(x38)	Gaffney(x4)	/Byrnes/Burns(x10)	/McCaffrey(x3)	
							Duffey/Duffee/Duffy(x5)			

**Figure 2:** The test subject's closest recurring Y-DNA STR genetic surname matches reveal a paternal ancestral link with Ireland. Surnames are shown at the point at which they first appear as a genetic match, figures in brackets are the numbers of individuals with a particular surname that appear as a genetic match at the 111, 67 and 37 marker levels. For example, the first match to an individual named Fannin, Fanning or Fannon shares 105/111 STR markers, but not all 38 genetically matching males named Fannin, Fanning or Fannon will match at that level. The test subject's closest genetically recurring surname matches are dominated by Irish-associated surnames which is typical given the test subject's Irish R-M222 paternal genetic marker. Highlighted font indicates each surnames associated ethnicity; **Irish**, **Irish-associated**.

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Upon commercial ancestral Y-DNA testing the test subject matched others with similar surnames like 'Kiernan,' McKiernan,' and 'McCurnin,' see **Figures 1** and **2**. This indicates that the test subject is directly descended from a 'Kernan-Adam,' literally the first male (Adam) to take that surname who lived approximately 1,000 years ago. The dominance of Irish surnames among the test subject's closest Y-DNA genetic matches confirms that his paternal ancestry is connected to Ireland. More specific BigY SNP testing confirmed that the test subject carried the Irish paternal R-M222 genetic marker and revealed that his most recent ancestry is linked with a selected number of Irish-associated surnames, see **Figure 3**.

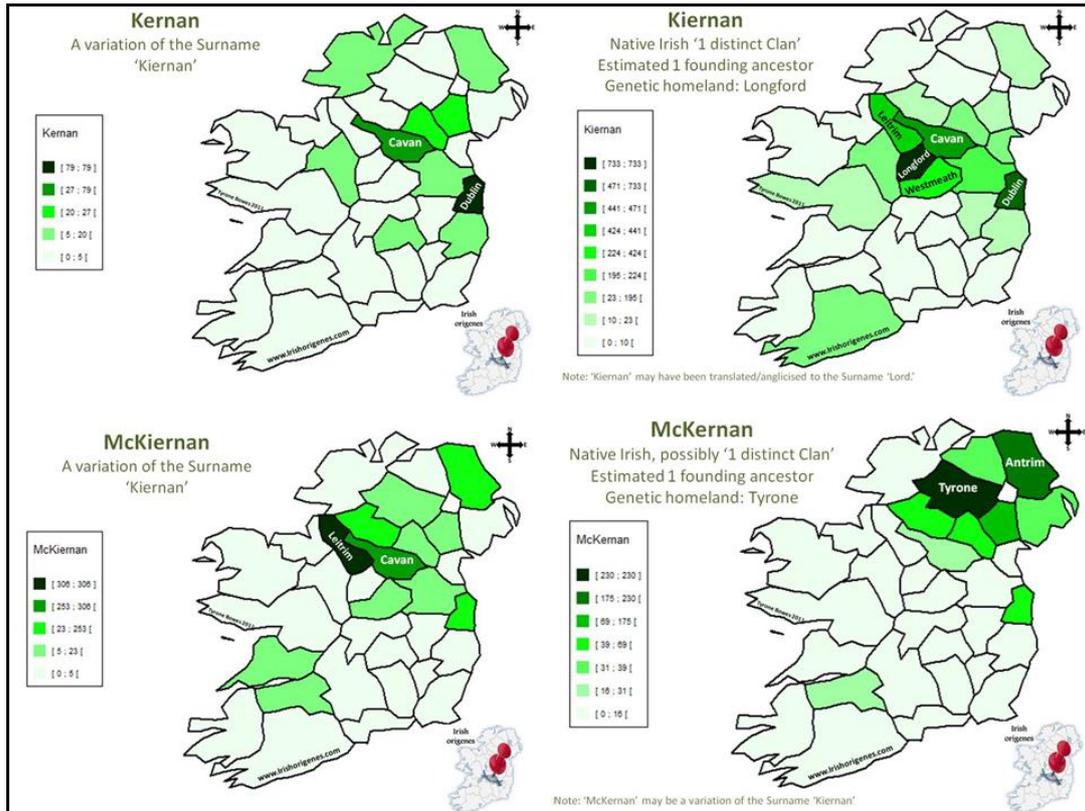


**Figure 3:** Block display of Mr Kernan's closest BigY SNP matches. While the STRs examined in the Y-DNA111 test are prone to replication or deletion with each generation, the SNPs explored in BigY testing are far more permanent mutations. BigY SNP testing offers a more accurate glimpse of the precise chronological development of surnames among a tribal group of related males. The test subject's closest BigY results are dominated by Irish surnames and block display confirms a most recent link with the Irish-associated Victory (green arrow), Masterson (brown arrow), Duffy (purple arrows), Cunningham (yellow arrows), and McGovern/McGauran (red arrows). The Victory, Masterson, Duffy, Cunningham, and McGovern/McGauran surnames arose among a tribal group of Gaelic Irish males who carried the Irish R-M222 paternal genetic marker.

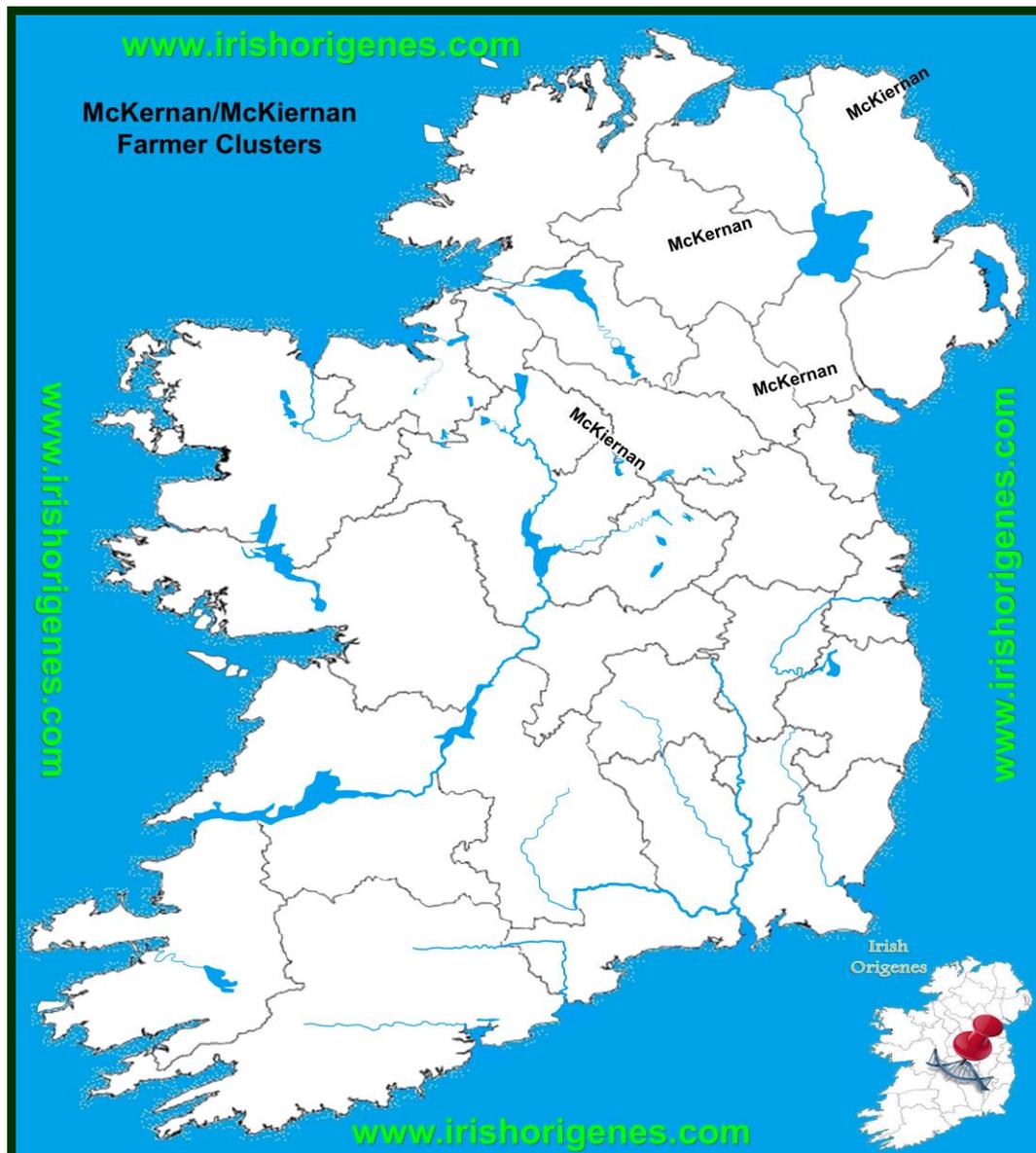
### The Kernan, McKernan, Kiernan, and McKiernan Surnames in Ireland

The 1911 census of Ireland revealed approximately 4,000 individuals named Kernan, McKernan, Kiernan, or McKiernan. Those individuals were not scattered uniformly throughout Ireland but concentrated within specific Irish counties, see **Figure 4**. Since surnames arose in an agricultural society, farmers with each surname can still be found concentrated in the area where their surname first appeared, or in the areas where one's ancestors first settled. Distribution mapping of Irish farmers named Kernan, McKernan, Kiernan, and McKiernan reveals them concentrated in 4 distinct locations, see **Figure 5**. This indicates that there were at least 4 geographically distinct clans within Ireland that could have given rise to the test subject's 'Kernan' surname. Each clan was potentially founded by a genetically distinct Adam (although some may be related and arose due to migration). Given the test subject's surname, his Y-DNA revealed Irish origin, and his Y-DNA matches to others with similar surnames; his paternal ancestry is linked with one of 4 locations within Ireland.

## Kernan – An Irish Origenes Y-DNA Case Study



**Figure 4:** Distribution mapping of the Kernan, McKernan, Kiernan, and McKiernan surnames in Ireland. An examination of the distribution of all individuals Kernan, McKernan, Kiernan, and McKiernan in 1911 reveals that they are not distributed evenly throughout Ireland but concentrate in specific Irish Counties.



**Figure 5:** The Kernan, McKernan, Kiernan, and McKiernan farming communities. An examination of the distribution of farmers named Kernan, McKernan, Kiernan, and McKiernan reveals 4 geographically distinct groups. Each group may represent an unrelated clan, each potentially founded by an unrelated and genetically distinct Adam. Since Y-DNA testing reveals that the test subject's paternal ancestry is linked with a Kernan/McKernan/Kiernan/McKiernan-Adam; his paternal ancestry is linked to one of these 4 locations within Ireland. Each surname is positioned in the location where farmers with that surname concentrated in early census data. The most common spelling is detailed in each location.

### **A most recent Paternal Ancestral link with the borderlands of Ulster and Leinster**

The method of using genetic surname matches as revealed by commercial ancestral Y-DNA testing to pinpoint one's paternal ancestral genetic homeland works by exploiting the link between the Y chromosome, surname and land which are typically passed from father to son through the generations. In the absence of a link to the land the process becomes more challenging. The link with the land is greatest among the farming community, and since farmers in Ireland can still be found farming the

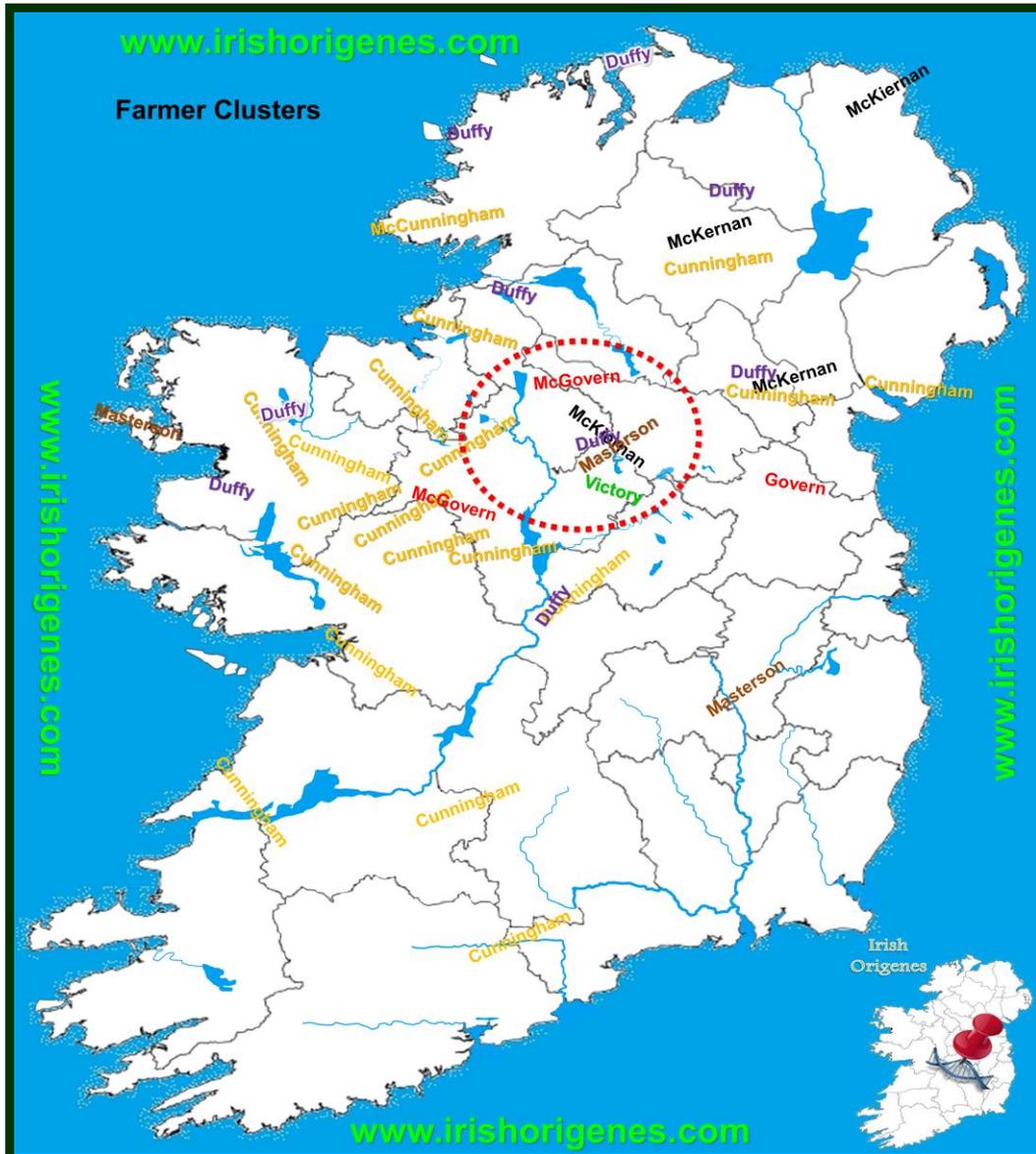
## Kernan – An Irish Origenes Y-DNA Case Study

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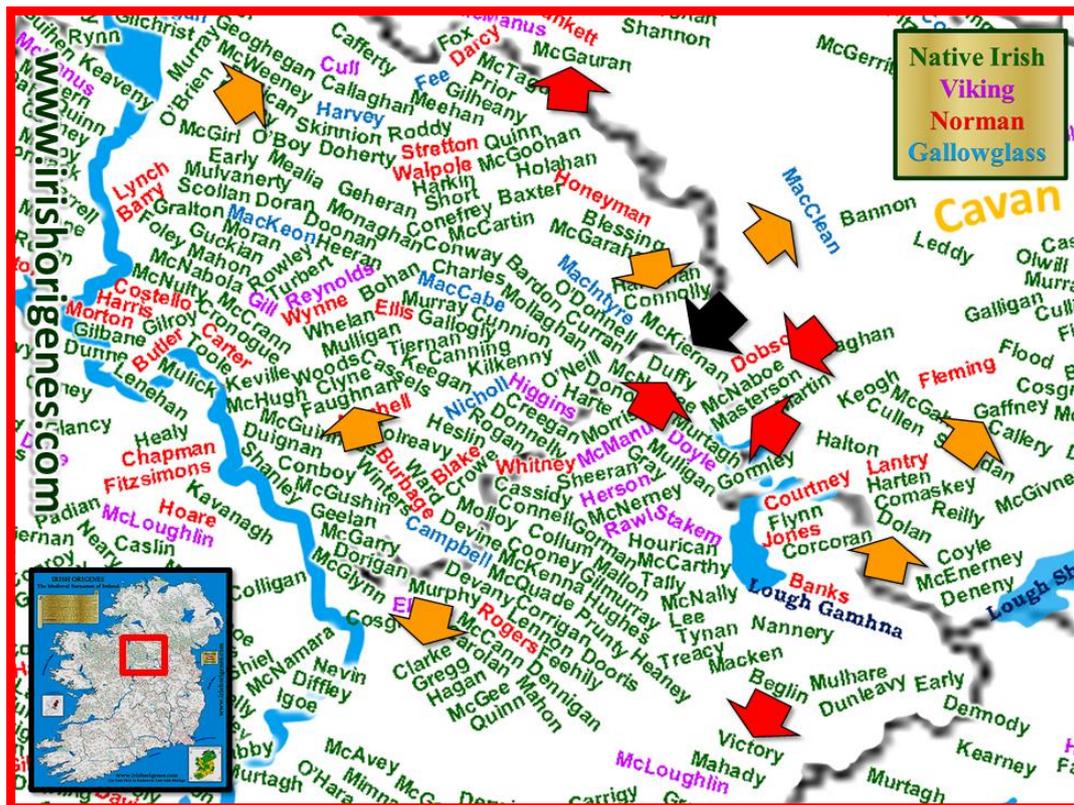
lands where their ancestor lived when he first inherited his surname, or where one's ancestor first settled within Ireland, one can plot where farmers with the surnames that appear in one's Y-DNA results originate and identify an area common to all. This means, for example, that upon Y-DNA testing a McKiernan from County Antrim will be a Y-DNA genetic match to males with surnames like McNeill, O'Kane and O'Loan; surnames associated with Northeast Ireland. In contrast, a McKernan from County Tyrone will be a Y-DNA genetic match to males with surnames like McSorley, McCrystal, and McGurgan; surnames associated Northwest Ireland.

An examination of the test subject's BigY block display DNA results reveals that his most recent paternal ancestry is intricately linked with the Victory, Masterson, Duffy, Cunningham, and McGovern/McGauran surnames, see **Figure 3**. Overlay mapping of the McKernan/McKiernan Victory, Masterson, Duffy, Cunningham, and McGovern/McGauran farming communities reveals that they only occur together within the borderlands of Ulster and Leinster, see **Figures 3** and **6**. An examination of the borderlands of Leitrim, Longford and Cavan as it appears on the Irish Origenes Surnames of Ireland map reveals that it is the McKiernans of Southeast Leitrim that one finds surrounded by many of the surnames that appear among the test subject's closest and most frequent Y-DNA STR and SNP genetic surname matches, see **Figure 2, 3** and **7**. The closest genetically matching surnames revealed by the test subject's Y-DNA results arose among a tribal group of R-M222<sup>+ve</sup> Gaelic Irish males living in the borderlands of Leitrim, Longford and Cavan an estimated 1,000 years ago.

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**Figure 6:** Overlay mapping reveals a most recent paternal ancestral link with the borderlands of Southern Ulster and Leinster. The McKernan/McKiernan Victory, Masterson, Duffy, Cunningham, and McGovern/McGauran surnames appear among the test subject's closest Y-DNA SNP matches. Overlaying mapping of the McKernan/McKiernan Victory, Masterson, Duffy, Cunningham, and McGovern/McGauran farming communities reveals that they only occur together within the borderlands of Southern Ulster and Leinster (red broken circle). These Y-DNA genetically matching surnames arose among a tribal group of Gaelic Irish (R-M222) males living on the borderlands of Leitrim, Longford, and Cavan an estimated 1,000 years ago. Each surname is positioned in the area where farmers with that surname concentrate in early census data. The most common spelling is detailed in each location.



**Figure 7:** The surnames of the Leitrim, Longford, and Cavan borderlands. An examination of the Pre-Plantation surnames associated with the of Leitrim, Longford, and Cavan borderlands (as it appears on the New 2<sup>nd</sup> edition of the Irish Origenes Surnames map) reveals the McKiernan surname (**black arrow**) in Southeast Leitrim surrounded by surnames that appear as his closest SNP (**red arrows**) or recurring Y-DNA STR genetic matches (**orange arrows**). Each surname is positioned in the location where farmers with each surname concentrate in early census data. The most common spelling is detailed in each location. Note: the surname 'Victory' is the anglicised version of the 'McNaboe' ('son of the Victorious one') surname which is located close to the McKienans.

### The Clan Territories of Southern Ulster

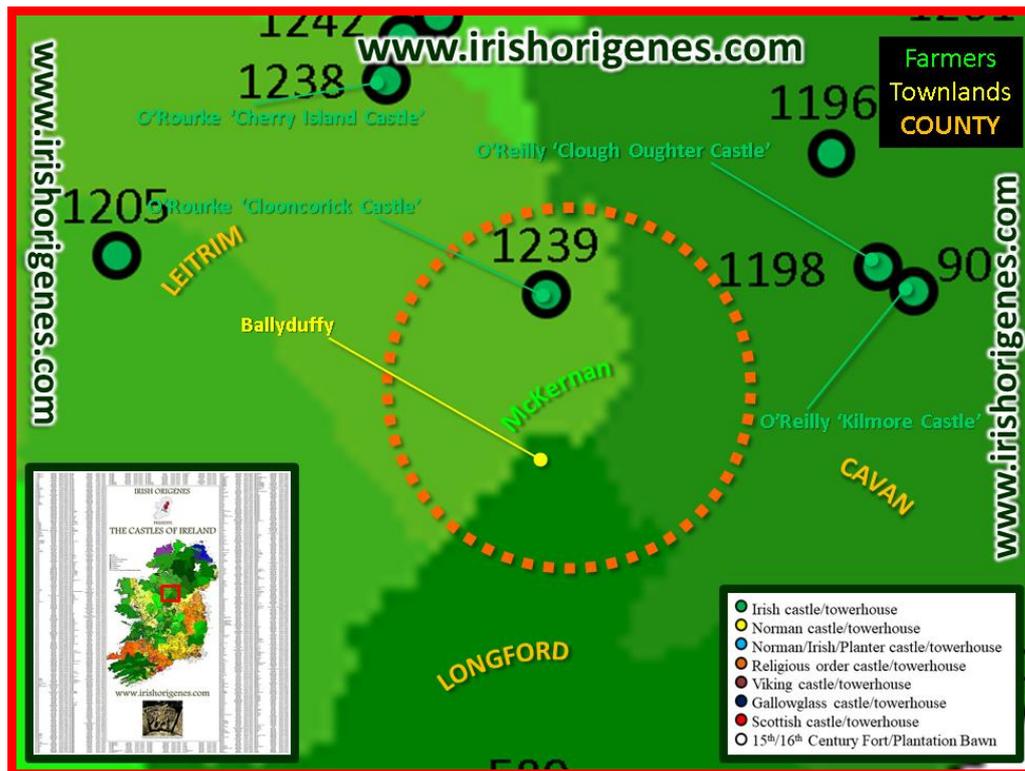
By the 14<sup>th</sup> and 15<sup>th</sup> Centuries Ireland was a patchwork of territories which were dominated by over 400 of the most notable Irish clans and Norman families. The Irish Origenes Clan Territories of Ireland Map was reconstructed based on the location of castles and towerhouses and their known historical link to a particular clan or family. Commercial ancestral Y-DNA testing and research at Irish Origenes has revealed that one will often exhibit shared paternal ancestry with one or more of the prominent clans or families that once ruled over one's paternal ancestral genetic homeland. An examination of Southern Ulster and bordering areas of Leinster as it appears on the Irish Origenes Clan map, reveals an area dominated by Irish clans, see **Figure 8**. Y-DNA testing reveals that the test subject's McKiernan ancestors were most closely related to the prominent McGaurans (McGovern) of modern County Leitrim, see **Figures 3 and 8**.



**Figure 8:** The Clan territories of Southern Ulster and bordering Leinster and Connacht. An examination of the Ulster, Leinster and Connacht borderlands as revealed by the Irish Origenes Clan Territories map reveals an area dominated by Irish clans. The Y-DNA test results revealed that the test subject's McKiernans (**black arrow**) were most closely related to the McGaurans/McGoverns (**red arrow**). Many of the surrounding prominent clans also feature among the test subject's recurring Y-DNA STR genetic matches (<3 **yellow arrows**, >3 **orange arrow**). The Clan territories map was reconstructed based on castle locations and their historically associated clans and families.

### Mr Kernan's Most Recent Irish Paternal Ancestral Genetic Homeland

Early census data reveals that the 'McKiernans' concentrate in the farmland that spans the borderlands of Counties Leitrim, Longford, and Cavan; and it is there that the test subject's most recent Irish Paternal Ancestral Genetic Homeland is to be found, see **Figure 9**. It was there that the test subject's Gaelic Irish R-M222 paternal ancestor settled, and where he first acquired the McKiernan surname. His Gaelic Irish 'McKiernan-Adam' lived surrounded by other R-M222 males who would take other surnames like McNaboe (Victory), McGovern, and Masterson (among many others). When one's ancestors and their genetic relatives have lived in an area for a long time, one will often find historical monuments, townlands or local placenames that are associated with them. see **Figure 9**. Although no McKiernan placenames or castles/monuments could be identified, one does find some that are associated with clans that appear among the test subject's Y-DNA results, see **Figure 9**. The test subject's paternal ancestors will undoubtedly have left evidence of their ancestral links with this area in its history, and in the DNA of the current inhabitants.



**Figure 9:** Mr Kernan's most recent Irish Paternal Ancestral Genetic Homeland. Early census data reveals that farmers named McKiernan concentrate in the farmland that spans the borderlands of Counties Leitrim, Longford, and Cavan; and it was there that his Gaelic Irish paternal ancestor lived when surnames first appeared in Ireland approximately 1,000 years ago (orange broken circle), and where his ancestor first took the 'McKiernan' surname. His founding McKiernan-Adam lived among Gaelic Irish males with whom he shared common ancestry but who crucially acquired other surnames like McNaboe (Victory), McGovern, and Masterson (among many others). An examination of the surrounding area reveals castles and townlands associated with his genetic relatives. The test subject's paternal ancestors will undoubtedly have left evidence of their ancestral links with this area in its history, and in the DNA of its current inhabitants.

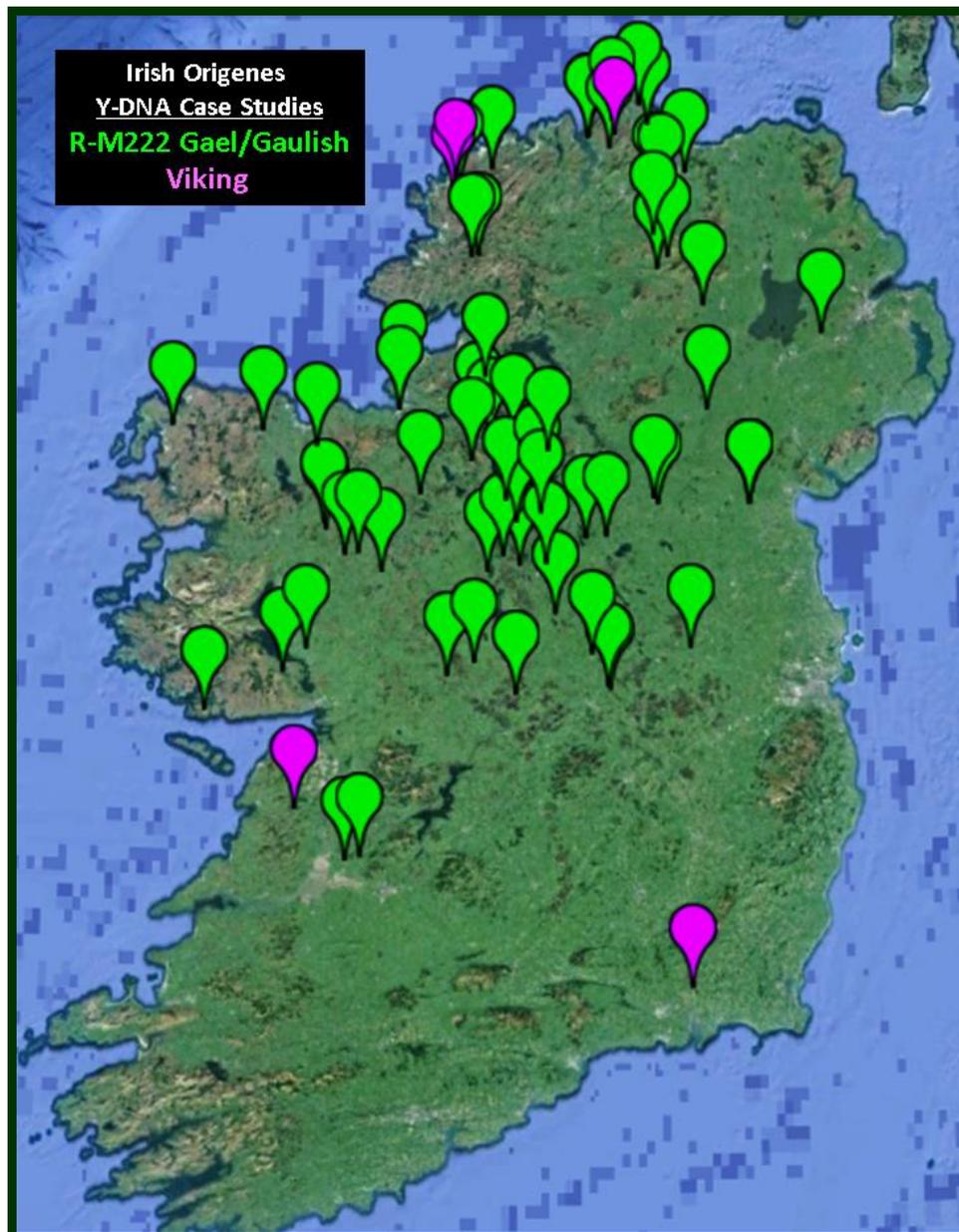
## The Expansion of R-M222<sup>ve</sup> Inishowen Males throughout Ireland and Scotland

### 'Vikings,' 'Foreign Helpers,' and 'Raiders from across the Sea'

The test subject carries the Irish R-M222 paternal genetic marker. That marker/mutation appeared in a single male who lived in the far northwest of Ireland approximately 1,800 years ago. This marker reveals that Mr Kernan's paternal ancestors lived near, or on, the Inishowen peninsula in the far northwest of Ireland until around 800 years ago. Commercial ancestral Y-DNA testing and extensive Y-DNA Case Studies at Irish and Scottish Origenes have revealed areas beyond Inishowen shores where R-M222<sup>ve</sup> males predominate in the local population, particularly in the Irish Midlands, along Ireland's west coast (Moy River valley and Galway Bay), and Galloway (Southwest Scotland), see **Figure 10**. Clues as to why some of these R-M222<sup>ve</sup> Gaels left Inishowen and began colonising throughout Ireland and Scotland can be found in their origin; Donegal (*Dún na nGall* 'base or fort of the Foreigner') and their descriptive surnames which they took with them like Gallagher (*Ó Gallchobhair* meaning 'Foreign helper') who upon settling along the west coast of Ireland acquired new surnames like Higgins (*O'hUigin* meaning 'Viking')

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and Halloran (*O'hAllmhurain* meaning 'Pirate or Stranger from overseas'). Modern DNA science indicates that during the appearance of surnames (800AD onwards) the R-M222<sup>ve</sup> Gaels of Inishowen had formed an alliance with Scandinavian 'Vikings,' and that Christian-Gael and Heathen-Gall (*Gall = foreigner*) had together raided and colonised throughout Ireland and beyond. In support of this Viking-Inishowen connection, research at Irish Origenes has uncovered three individuals with recent Donegal ancestry but with Scandinavian Y-DNA: clear evidence of Scandinavian contact with Inishowen, see **Figure 10**.

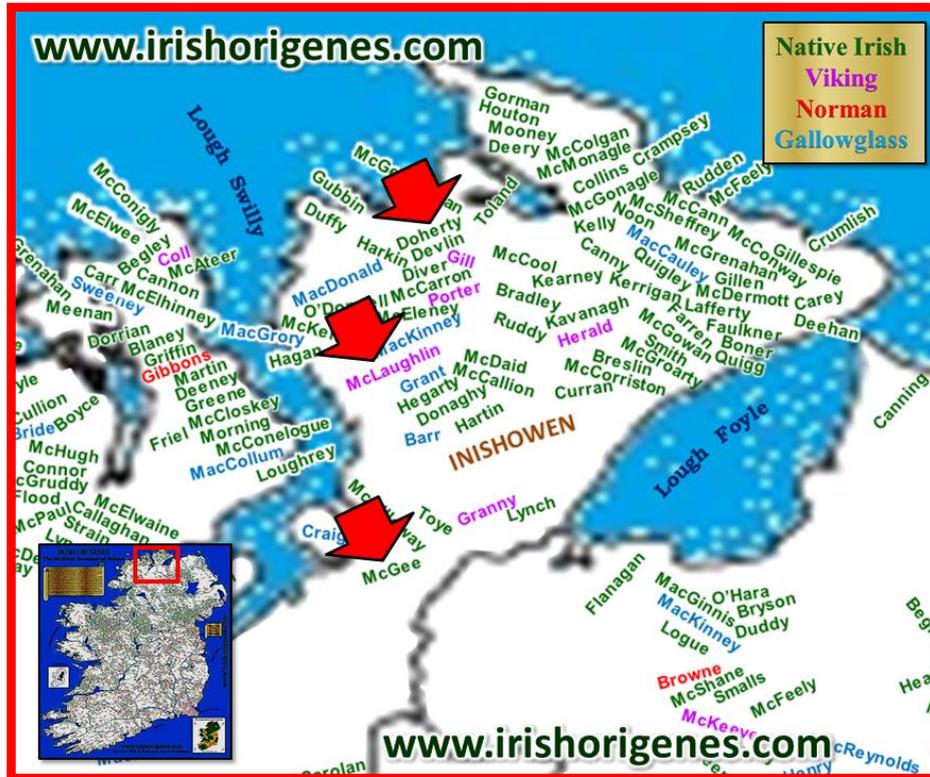


**Figure 10:** Pinpointed origins of Irish Origenes R-M222 and Viking Y-DNA Case Studies. Research at Irish Origenes reveals that R-M222 Gael/Gaulish Y-DNA Case Studies dominate the northern half of Ireland, while 50% of Viking Case Studies are linked with Donegal in Northwest Ireland.

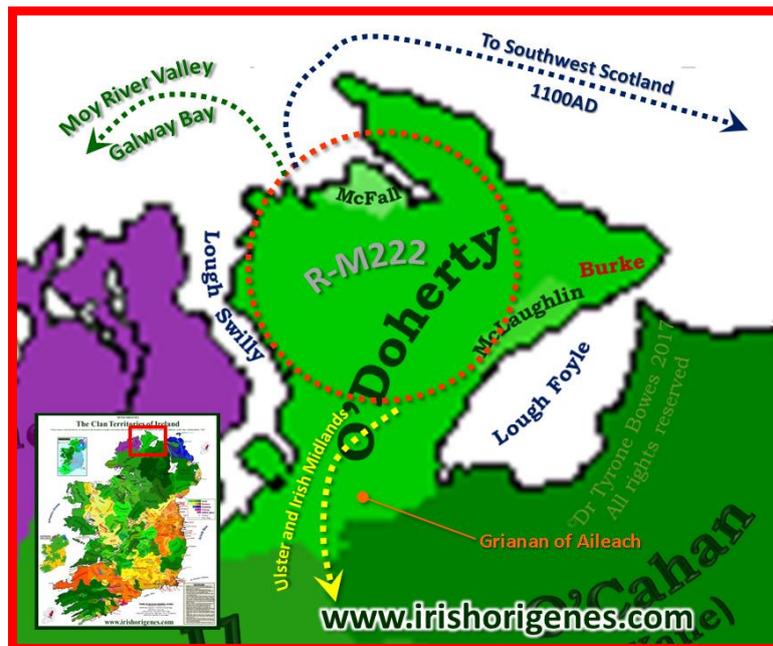
The Dohertys, McLaughlins and McGees that often feature prominently among R-M222 Y-DNA results reach their highest concentration in, or close to the Inishowen peninsula, see **Figure 11**. In fact, the territory of the Dohertys, who dominate the

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genetic matches of R-M222<sup>ve</sup> males (including Mr Kernan), incorporated much of Inishowen together with the historic centre of ‘Grianan of Aileach’ where the R-M222 marker reaches its highest concentration in Ireland, see **Figure 12**. Conquest beyond Inishowen would literally allow one’s ancestors to ‘*make a name for themselves*,’ and what the DNA reveals is an explosion of newly acquired surnames among the Inishowen R-M222<sup>ve</sup> Gaelic Irish Conquerors.



**Figure 11:** The Surnames of Inishowen in Donegal in Northwest Ireland. The test subject’s paternal ancestor lived in Northwest Ireland prior to his arrival within Southern Ulster and bordering Leinster. An examination of Inishowen surnames reveals the Dohertys, McGees, and McLaughlins (red arrows) that dominate the genetic matches of males that carry the R-M222 marker (The Dohertys alone account for nearly 4% of Mr Kernan’s 1,115 BigY SNP genetic relatives). Each surname is positioned in the location where farmers with each surname concentrate in early census data. The most common spelling is detailed in each location.



**Figure 12:** The Clan Territories of Inishowen. An examination of the Irish Clan territories map reveals that the R-M222<sup>+</sup>ve Dohertys and McLaughlins ruled almost the entire Inishowen peninsula. The R-M222 ancestral homeland is marked by the historic centre known as 'Grianan of Aileach.' R-M222<sup>+</sup>ve males later participated in the Conquest of Southwest Scotland led by the Viking King of Norway 'Magnus Barelegs' in about 1100AD. Many of the descendants of these Conquering Irish Gaels returned to Ireland as English-speaking Lowlander Protestant Scots during the Plantation of Ulster that began in 1610AD.

### Refugees from Gaul

The test subject's Y-DNA results reveal a deeper Central European 'Celtic' origin. Research at Irish and Scottish Origenes has revealed that the Roman Conquest of Gaul in the 1<sup>st</sup> Century BC propelled Gaulish refugees into Britain and Ireland. The Y-DNA results reveal that the test subject's paternal ancestors sought refuge from Roman Conquest in the remote northwest corner of Ireland approximately 1,900 years ago. Although Great Britain takes its name from the 'Celtic' Brythonic tribes that began colonising the island from Central Europe in around 800BC. It was the distant cousins of the Ancient Britons; the 'Gauls/Gaels,' who, ousted by the Romans from their homeland in Central Europe, would carve out new territories for themselves in Ireland and Scotland, and would eventually come to dominate the modern identity of the Irish and Scottish nations.

### How to confirm a pinpointed 'Paternal Ancestral Genetic Homeland'

One must keep in mind that this is a scientific approach to identifying a paternal ancestral origin, and that the connection to an identified area can be confirmed by Y-DNA testing males with a particular surname from the identified area. Confirmation of the paternal ancestral link with the borderlands of Counties Leitrim, Longford and Cavan will require the recruitment of farmers named McKiernan from that area for Y-DNA testing.

**Contact Irish Origenes for a FREE CONSULTATION**

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For queries regarding Mr Kernan (test subject) you can email Ann Kernan who  
commissioned the report. Email: [ancarkk@gmail.com](mailto:ancarkk@gmail.com)