

Scandinavian origin of the Rurikid N1c1 lineage

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Since it was found out that many Russian noble families, which derive their paternal lineage from the mythic Rurik, represent the haplogroup N1c1, many people have taken this as an evidence about the Finno-Ugric origin of the "genetic Rurik". However, a haplogroup itself can tell nothing about the language of its carriers. The scientific procedure to find out the language of the "genetic Rurik" is to locate his ancestral paternal root, and then see which language was spoken in that area at that time. This means that the results of both genetics and linguistics must be considered independently – genetic results should not twist the linguistic results, or vice versa.

Here I shall root the "genetic Rurik" (= paternal ancestor of all the related Rurikid families, no matter what the real name of this biological ancestor was) in the N1c1-haplotype tree. In my STR-based haplotype tree I shall also utilize the continuously updated SNP-based haplogroup tree (see Northern Eurasian N -project). The STR-based tree is not alone as reliable as the SNP-based tree, because there may occur back-mutations and independent parallel mutations in the STR-tree. Still, we get much higher resolution with the STR-tree: many haplotypes which share the common SNP-mutations usually differ at least by few STR-mutations. By combining the STR-level and the SNP-level we get the most reliable and the most resolute tree.

I start from the reconstructed Central European founder haplotype, so-called Proto-L550, which is the common ancestor of all the L550-branches of N1c1 (the Balto-Polish, the Spanish and the Scandinavian branches). This in turn is reconstructed with the help from both descending and ascending haplotypes, that is: the haplotypes following and preceding the mutation L550. (See <http://www.mv.helsinki.fi/home/jphakkin/N1c1.pdf>)

Every STR-mutation (e.g. DYS390) within the range of 111 markers (*loci*) is taken into consideration, and so are all the SNP-mutations (e.g. L550) which are considered certain and diagnostic. When I present an existing individual haplotype, its FamilyTreeDNA kit number is marked in *Italic*, like *50530*. When I present a calculated modal haplotype (MHT consists of the most common value within a group of closely related haplotypes in every *locus*), or a reconstructed founder haplotype (FHT consists of the most ancestral values within a group of closely related haplotypes in every *locus*; FHT can only be reconstructed when the group is rooted in the haplotype tree) the kit numbers are shown in *Italic* in brackets, like (*184210*, *205133*). New mutations are marked in **red**, and old mutations in **blue**. Markers with plain **blue** have not gone through any mutations after the root FHT (here Proto-L550). Contradicting or ambiguous mutations are marked in **violet**.

The 111 marker haplotypes I have picked from the following projects:
<http://www.familytreedna.com/public/N%20Russia%20%20DNA%20Project/default.aspx?section=yresults>

(N North Eurasian YDNA Project)

<http://www.familytreedna.com/public/rurikid/default.aspx?section=ycolored>

(Rurikid Dynasty DNA Project)

<http://www.familytreedna.com/public/scandinavianydna/default.aspx?section=ycolored>

(The Scandinavian Y-DNA Project)

<http://www.familytreedna.com/public/finland/default.aspx?vgroup=finland§ion=yresults>

(Finland DNA Project)

Central European FHT L550+

14 23 14 11 11-13 11 12 10 14 14 16=30 17 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 36-36 14 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 17 07 13 20 21 15 12 11 10 11 11 12 11
40 15 08 15 12 23 27 19 13 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 23 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 12 11

Spanish 50530

13 23 12 11 11-13 11 12 10 14 14 16=30 17 09-09 11 12 24 14 19 28 14-14-15-15 11 11 18-20 14 15 16 17 36-36 14 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 17 07 13 20 21 15 12 11 10 11 11 12 11
37 15 08 15 12 22 27 19 13 14 11 12 13 09 12 12 10 10 12 31 13 12 21 18 11 09 23 15 21 12 22 13 13 14 26 12 22 18 11 13 16 08 11 11

North European FHT

14 23 14 11 11-13 11 12 10 14 14 16=30 17 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 36-36 14 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 17 07 13 20 21 16 12 11 10 11 11 12 11
40 15 08 15 12 23 27 19 13 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 23 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 12 11

Balto-Polish (example)

14 23 15 11 11-14 11 12 10 13 14 16=29 17 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 17 19 36-36 13 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 16 07 13 20 21 16 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 23 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 12 11

I Varangian FHT

14 23 14 11 11-13 11 12 10 14 14 16=30 17 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 36-36 14 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 18 07 13 20 21 16 12 11 10 11 11 12 11
40 16 08 15 12 23 27 19 13 13 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 23 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 12 11

I-A Jonsson 174607

14 23 14 11 11-13 11 12 11 13 13 16=29 17 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 20 37 37 12 10 11 08 16-17 08 08 10 08 11 10 12 21-22 13 10 12 12 18 07 13 20 21 16 12 11 10 11 11 12 11
37 16 08 15 12 23 27 19 13 13 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 22 15 21 13 22 13 13 14 26 12 20 19 11 13 16 08 12 11

I-B Rus-Varangian FHT

14 23 14 11 11-13 11 12 10 14 14 16=30 18 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 35-35 14 10 11 08 15-18 08 08 10 08 11 10 12 21-22 14 10 12 12 18 07 13 21 21 16 12 11 10 11 11 12 11
40 16 08 15 12 24 27 19 12 13 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 23 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 11 11

I-B1 Rurikid princes MHT (111461, 200703, 158355, 158598, 179757, 158599, 47176, 133692, 160453, 197153, 229414)

14 23 14 11 11-13 11 12 10 14 14 16=30 18 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 34-34 15 10 11 08 15-18 08 08 10 08 11 10 12 20-22 14 10 12 12 18 07 13 21 21 16 12 11 10 11 11 12 11
40 16 08 14 12 25 27 19 11 13 11 12 14 09 11 12 10 10 12 32 12 12 21 18 11 09 23 15 21 12 22 13 12 14 26 12 21 18 11 13 16 08 11 11 (Markers 68-111 only from 197153)

I-B2 FHT

14 23 14 11 11-13 11 12 10 14 14 16=30 18 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 35-35 14 10 11 08 15-18 08 08 10 08 11 10 12 21-22 14 10 12 12 18 07 13 21 21 16 12 11 10 11 11 12 11
40 16 08 15 12 24 27 19 12 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 23 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 11 11

I-B2A Werme/Karlsson 223703

14 23 14 12 11-13 11 12 10 14 14 16=30 19 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 14 16 19 37-37 14 10 11 08 15-18 08 08 10 08 11 10 12 21-22 14 10 12 12 18 07 13 21 21 16 12 11 10 11 11 12 11
39 16 08 15 12 24 27 19 12 14 11 12 14 09 10 12 10 10 12 31 12 12 21 18 11 09 23 15 21 12 22 13 13 14 26 12 23 18 11 12 16 08 11 11

I-B2B FHT (139986, 187619, 236032, 221703, N86056, 170255)

14 23 14 11 11-13 11 12 10 14 14 16=30 18 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 35-35 14 10 11 08 15-18 08 08 10 08 11 10 12 21-22 14 10 12 12 18 07 13 21 21 16 12 11 10 11 11 12 11
40 16 08 15 12 24 27 19 12 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 22 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 11 11

I-B2B1 Dion-Östlund FHT (139986, 187619)

14 23 14 11 11-13 11 12 10 13 14 16=29 18 09-09 11 12 25 14 19 28 14-14-15-15 10 12 18-20 14 15 16 19 34-34 14 10 11 08 15-18 08 08 10 08 11 10 12 22-22 14 10 12 12 18 07 13 21 21 16 12 11 10 12 11 12 11
40 16 08 15 12 24 27 19 12 14 11 12 14 09 11 12 10 10 12 31 13 12 21 18 11 09 22 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 11 11

I-B2B2 FHT(236032, 221703, N86056, 170255)

14 23 14 11 11-13 11 12 10 14 14 16=30 18 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 35-35 14 10 11 08 15-18 08 08 10 08 11 10 12 21-22 14 10 12 12 18 07 13 21 21 16 12 11 10 11 11 12 11
40 16 08 15 12 24 27 19 12 13 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 22 15 20 12 22 13 13 14 26 12 21 18 11 13 16 08 11 11

III Finno-Baltian FHT L1025+

14 23 14 11 11-13 11 12 10 14 14 16=30 **16** 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 16 19 36-36 14 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 17 07 13 20 21 **16** 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 **24** 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 12 11

III-A Balto-Russian FHT

14 23 14 11 11-13 11 12 10 14 14 16=30 **16** 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 14 15 **17** 19 36-36 14 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 **16** 07 13 20 21 **16** 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 **24** 15 21 12 22 13 13 14 26 12 21 18 11 13 16 08 12 11

Shekhovtsov MHT (184210, 205133)

14 23 14 11 **12**-13 11 12 10 14 14 16=30 **16** 09-09 11 12 25 14 19 28 14-14-15-15 11 11 18-20 **15** 15 **17** 19 36-36 **15** 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 **16** 07 13 20 21 **16** 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 **13** **12** 12 **12** 09 11 12 10 10 12 31 **13** 12 21 18 11 09 **25** 15 21 **13** 22 13 13 14 26 12 21 18 **12** 13 16 08 12 11

Steinblums-Bauers MHT (150343, B2516)

14 23 14 11 11-**14** 11 12 10 **13** 14 16=**29** **16** 09-09 11 12 25 14 19 **27** 14-14-15-15 11 11 18-20 14 15 **17** 19 36-36 **13** 10 11 08 15-17 08 08 10 08 11 10 12 21-**21** 14 10 12 12 **16** 07 13 20 21 **18** 12 11 10 11 11 12 11
???

III-B Finnish FHT (Tawast-Räihä)

14 23 14 **10** 11-13 11 12 **09** 14 14 16=30 **16** 09-09 11 12 25 14 19 28 14-14-15-15 11 **10** 18-20 14 15 16 19 **37-37** 14 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 **18** 07 13 **21** **22** **16** 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 **24** 15 21 12 22 13 13 14 26 12 **23** 18 11 13 16 08 12 11

Tawast FHT (102351, 121499, 120671, 133727)

14 23 14 **10** 11-13 11 12 **09** 14 14 16=30 **16** 09-09 11 12 25 14 19 28 14-14-15-15 11 **10** 18-20 14 15 16 19 **38-38** 14 10 11 08 15-17 08 08 10 08 **10** 10 12 21-22 14 10 12 12 **18** 07 13 **21** **22** **16** 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 14 11 12 14 09 11 12 10 10 12 31 12 12 21 18 11 09 **24** 15 21 12 22 13 13 14 26 12 **23** 18 11 13 16 08 12 11

Tawast-2 MHT (148355, 113355)

14 23 14 **10** 11-13 11 12 **09** 14 14 16=30 **16** 09-09 11 12 25 14 19 28 14-14-15-15 **10** **10** 18-20 14 15 16 19 **38-38** 14 10 11 08 15-17 08 08 10 08 **10** 10 12 21-22 14 10 12 12 **18** 07 13 **21** **22** **16** 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 14 11 12 **13** 09 11 12 10 10 12 31 12 12 21 18 11 09 **24** 15 21 12 22 13 13 14 26 12 **23** 18 11 13 16 08 12 11

Räihä FHT (149374, 169134, 136290)

14 23 14 **10** 11-13 11 12 **09** 14 14 16=30 **17** 09-09 11 12 25 14 19 **27** 14-14-15-15 11 **10** 18-20 14 15 16 19 **37-37** 14 10 11 08 15-17 08 08 10 08 11 10 12 21-22 14 10 12 12 **18** 07 13 **21** **22** **16** 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 14 **12** 12 **12** 09 11 12 10 10 12 31 12 12 21 18 11 09 **24** 15 21 12 22 13 **12** 14 26 12 **23** 18 11 13 16 08 12 11

Räihä-2 MHT (222699, 173962)

14 23 14 **10** 11-13 11 12 **09** 14 14 16=30 **17** 09-09 11 12 25 14 19 **27** 14-14-15-15 11 **10** 18-20 14 15 16 19 **37-37** 14 10 11 08 15-17 08 08 10 08 **10** 10 12 21-22 14 10 12 12 **19** 07 13 **21** **22** **16** 12 11 10 11 11 12 11
41 15 08 15 12 23 27 19 13 14 **12** 12 **12** 09 11 12 10 10 12 31 12 12 21 18 11 09 **24** 15 21 12 22 13 **12** 14 26 12 **23** 18 11 13 16 08 12 11

Results

We can see that the so-called "Scandinavian" haplotypes (those L550+ haplotypes which do not belong to the **Balto-Polish** or **Spanish** branches) do not form only one branch but three separate branches: **I Varangian**, **II Scandinavian** and **III Finno-Baltian** (L1025+).

The third branch does not even seem to originate in Scandinavia, because the basal haplotypes (the closest ones to the reconstructed founder haplotype) are found in Baltia and Russia (**III-A**) and in Finland (**III-B**). This branch was probably born in Northern Baltia (in present-day Latvia or Estonia), geographically very close to its **Balto-Polish** brother branch, which was born in Southern Baltia.

The second branch (**II Scandinavian**) was probably born in Scandinavia, because the distribution of haplotypes belonging to the second main group **II-B** can be explained by the *Austrvegr* of the Viking Age Scandinavians, running from Sweden via Gulf of Finland to Ladoga and further to the great rivers of Rus.

The first branch (**I Varangian**) has the most convincing support for its Scandinavian origin: the very basal haplotype **I-A 174607** is Swedish, and within the main group **I-B2** we can see the basal haplotype **I-B2A 223703** to be Swedish. The Rurikid prince families belong to the main group **I-B1**, and although they are Russian, they clearly seem to descend from the Scandinavian ancestor.

ADDITION (10. Dec. 2012): Here I did not include the Balto-Polish haplotypes. However, it must be noted that the branch **III Finno-Baltian** shares the SNP-mutation L1025+ with the **Balto-Polish** (or South-Baltic) branch. This connection cannot be seen here, but in the wider STR-haplotype tree for the haplogroup N1c1 the **Balto-Polish** branch is a brother lineage for **III Finno-Baltian** branch, and not at the same hierarchical level as the branches **I Varangian** and **II Scandinavian**. So, in the big picture we will have the branch **III Proto-L1025+**, which then splits into two: **III-A Finno-Baltian** and **III-B Balto-Polish**.

The origin of the Rurikid lineage

We now have a situation where the results from three different disciplines of science point to the same direction:

1. **Historical evidence** – The Primary Chronicle (The Tale of Bygone Years) tells that a Scandinavian Varangian called Rurik (Old East Norse: Rørik) was invited to rule the early Rus' state.
2. **Linguistic evidence** – Some person names of the ruling family of the early Rus' have Scandinavian etymology: Oleg ← Helge, Igor ← Ingvar, Olga ← Helga.
3. **Genetic evidence** – The Rurikid prince families, who belong to the haplogroup N1c1 and derive their paternal lineage from Rurik, seem to descend from Scandinavia.

It is irrelevant whether Rurik was a historical or mythical person. We don't need to believe that a man with this name arrived from Scandinavia exactly at that year the Primary Chronicle tells us. His true identity may remain an unsolved question, but it now seems to be beyond any reasonable doubt that there truly was a man of Scandinavian origin, who arrived in the Early Rus' and founded a ruling dynasty, being the genetic forefather of many Russian noble families. That man we can call the "genetic Rurik".