

## Supplementary 10

Table 1. Results of qpAdm modeling of Scandinavian populations as a three-ways admixture

	target	Barcin_EN.SG	Loschbour_M.SG	Yamnaya_EBA.SG	nsnps_target	p-value
1	AngloSaxon_IA.SG	0.273	0.127	0.6	1079247	0.101974
2	Bavaria_EMED.SG	0.429	0.099	0.472	1077295	0.386482
3	BBCentralEurope_EBA.SG	0.317	0.058	0.624	584781	0.79533
4	Bodzia_VA.SG	0.354	0.131	0.515	1053641	0.230593
5	CordedWare_EBA.SG	0.175	0.12	0.705	1079498	0.454511
6	Denmark_IA.SG	0.333	0.134	0.533	1078541	0.333459
7	Denmark_LNBA.SG	0.382	0.111	0.506	501732	0.22698
8	Dorset_VA.SG	0.344	0.112	0.544	1079403	0.000281113
9	EarlyNorseGreenlandE_VA.SG	0.405	0.13	0.465	1079253	0.0224386
10	England_IA.SG	0.4	0.118	0.482	1078979	0.413811
11	Estonia_BA.SG	0.267	0.187	0.546	983746	0.597048
12	Estonia_IA.SG	0.06	0.171	0.769	828648	0.0068989
13	Estonia_MED.SG	0.114	0.162	0.724	771164	0.178821
14	Faroe_EM.SG	0.402	0.12	0.478	1079574	0.0747642
15	Foggia_MED.SG	0.671	0.01	0.319	1073944	0.000336033
16	Funen_VA.SG	0.363	0.123	0.513	1079600	0.0186982
17	Gnezdovo_VA.SG	0.339	0.097	0.564	980217	0.000762237
18	Gotland_VA.SG	0.296	0.135	0.569	1079680	0.191852
19	HungarianScythian_IA.SG	0.44	0.097	0.463	992598	0.0898005
20	Hungary_BA.SG	0.428	0.147	0.424	948697	0.103569
21	Iberia_BA.SG	0.595	0.149	0.256	1064217	0.0591554
22	Iceland_VA.SG	0.342	0.112	0.547	1079596	0.0190861
23	Iceland2_VA.SG	0.335	0.12	0.544	1079201	0.0249149
24	Ingria_IA.SG	-0.007	0.134	0.873	621355	0.158984
25	Ireland_BA.SG	0.33	0.101	0.568	1079498	0.51928
26	Ireland_VA.SG	0.28	0.128	0.592	1062005	0.313943
27	Jutland_VA.SG	0.38	0.106	0.515	1079570	0.0479903
28	Karda_VA.SG	0.541	0.073	0.386	936951	0.0402569
29	Ladoga_VA.SG	0.288	0.121	0.591	1079362	0.00585325
30	Langeland_VA.SG	0.362	0.111	0.527	1079648	0.0418317
31	Longobard_EMED.SG	0.468	0.082	0.45	1079611	0.0299949
32	Norway_IA.SG	0.321	0.157	0.522	1048270	0.650908
33	NorwayM_MED.SG	0.417	0.11	0.473	1052397	0.315749
34	NorwayN_VA.SG	0.226	0.119	0.655	1079619	0.0000000616432
35	NorwayS_VA.SG	0.31	0.13	0.56	1079542	0.0000573764
36	Oland_VA.SG	0.362	0.111	0.527	1079681	0.000537919
37	Orkney_VA.SG	0.406	0.111	0.483	1076543	0.38774
38	Oxford_VA.SG	0.343	0.117	0.541	1079628	0.0040935
39	RomanUK_IA.SG	0.452	0.09	0.459	1078265	0.533074
40	Salme_EVA.SG	0.332	0.143	0.525	1079688	0.000959098
41	Sigtuna_VA.SG	0.302	0.133	0.565	1079594	0.00237509
42	Skara_VA.SG	0.359	0.123	0.518	1079677	0.0457121
43	Sweden_LNBA.SG	0.305	0.135	0.56	1018859	0.145308
44	Unetice_EBA.SG	0.247	0.093	0.661	908852	0.171969
45	Zealand_EVA.SG	0.42	0.116	0.463	1074075	0.369857
46	Zealand_VA.SG	0.341	0.118	0.541	1079242	0.0178289

Note. The green color indicates statistically significant results of qpAdm modeling of Viking populations ( $p$ -value > 0.05).

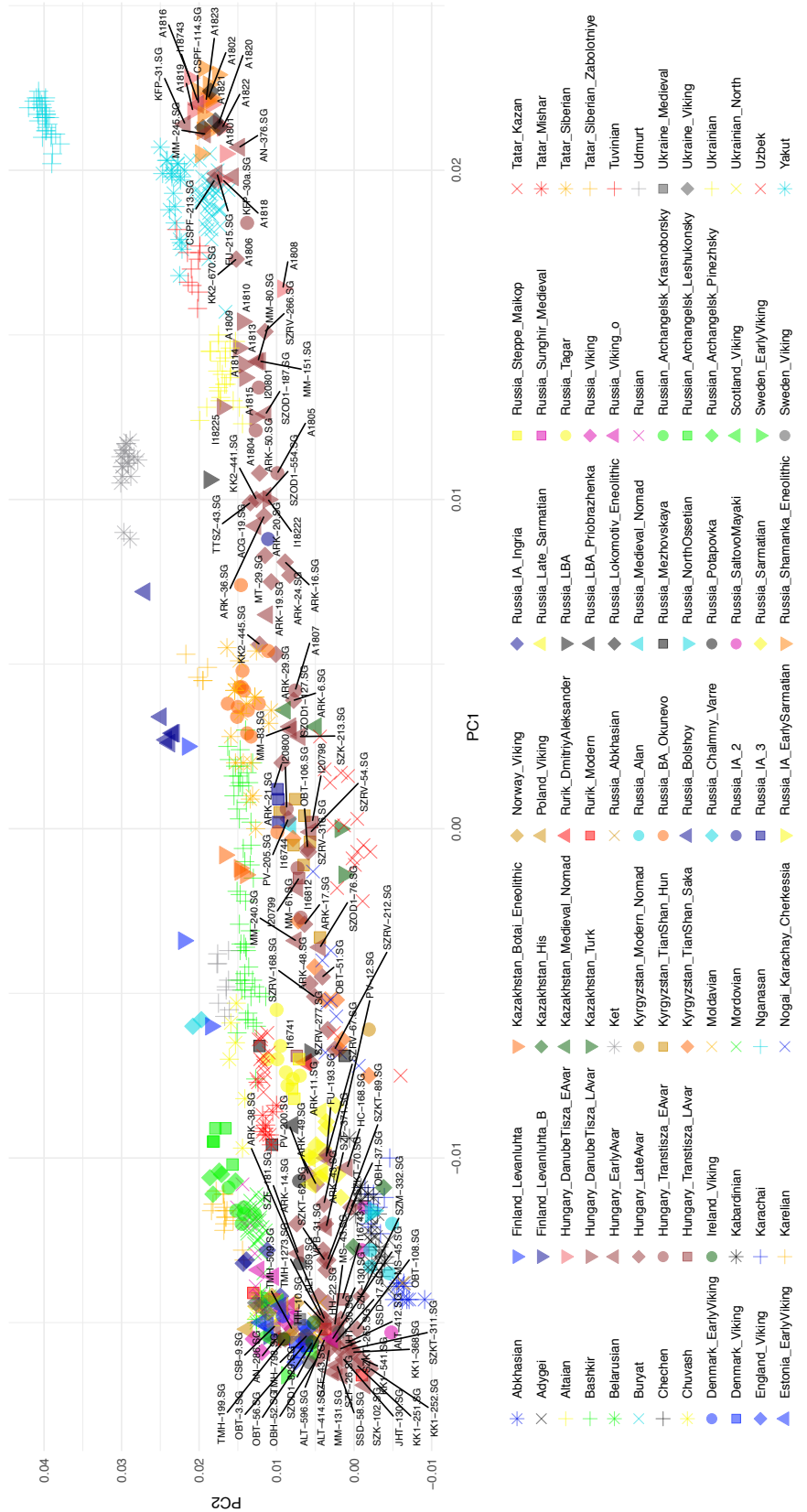
Table 2. Results of qpAdm modeling of Scandinavian populations as a four-ways admixture

	target	Barcin_ EN.SG	Loschbour_M. SG	Yamnaya_ EBA.SG	Russia_ Bolshoy	stderr_ Barcin_ EN.SG	stderr_ Loschbour_M. SG	stderr_ Yamnaya_ EBA.SG	stderr_ Russia_ Bolshoy	nsnps_ target	p-value
1	NorwayN_VA.SG	0.374	0.121	0.415	0.09	0.049	0.007	0.057	0.015	1079619	0.0174443
2	NorwayS_VA.SG	0.37	0.132	0.456	0.041	0.058	0.007	0.069	0.017	1079542	0.000493629
3	Dorset_VA.SG	0.401	0.113	0.45	0.035	0.057	0.008	0.069	0.017	1079403	0.000942134
4	Foggia_MED.SG	0.683	0.011	0.296	0.011	0.071	0.01	0.085	0.022	1073944	0.000142684
5	Oland_VA.SG	0.398	0.112	0.467	0.023	0.054	0.007	0.063	0.015	1079681	0.000752965
6	Gnezdovo_VA.SG	0.39	0.1	0.473	0.038	0.076	0.01	0.09	0.021	980217	0.00141857
7	Salme_EVA.SG	0.382	0.143	0.436	0.038	0.047	0.007	0.054	0.014	1079688	0.0158104
8	Sigtuna_VA.SG	0.359	0.134	0.464	0.043	0.048	0.007	0.057	0.015	1079594	0.0377364
9	Oxford_VA.SG	0.358	0.117	0.513	0.012	0.051	0.007	0.059	0.015	1079628	0.00245548
10	Ladoga_VA.SG	0.346	0.122	0.485	0.047	0.046	0.007	0.055	0.015	1079362	0.138389
11	Estonia_IA.SG	0.173	0.173	0.57	0.084	0.063	0.01	0.074	0.021	828648	0.637841
12	Zealand_VA.SG	0.345	0.119	0.533	0.004	0.055	0.008	0.064	0.017	1079242	0.00869384
13	Funen_VA.SG	0.399	0.124	0.45	0.027	0.047	0.007	0.056	0.015	1079600	0.0388366
14	Iceland_VA.SG	0.388	0.113	0.465	0.034	0.048	0.007	0.057	0.015	1079596	0.0792569
15	EarlyNorse- GreenlandE_ VA.SG	0.451	0.131	0.377	0.042	0.053	0.009	0.061	0.016	1079253	0.163225
16	Iceland2_VA.SG	0.369	0.121	0.485	0.024	0.049	0.007	0.059	0.015	1079201	0.0375385
17	Longobard_ EMED.SG	0.516	0.085	0.358	0.041	0.049	0.008	0.058	0.016	1079611	0.255553
18	Karda_VA.SG	0.541	0.074	0.382	0.003	0.08	0.012	0.092	0.023	936951	0.0202231
19	Langeland_ VA.SG	0.377	0.111	0.499	0.012	0.046	0.007	0.054	0.014	1079648	0.0296236
20	Skara_VA.SG	0.392	0.124	0.46	0.024	0.045	0.007	0.054	0.014	1079677	0.0806565
21	Jutland_VA.SG	0.379	0.106	0.516	0	0.049	0.007	0.058	0.015	1079570	0.0245844

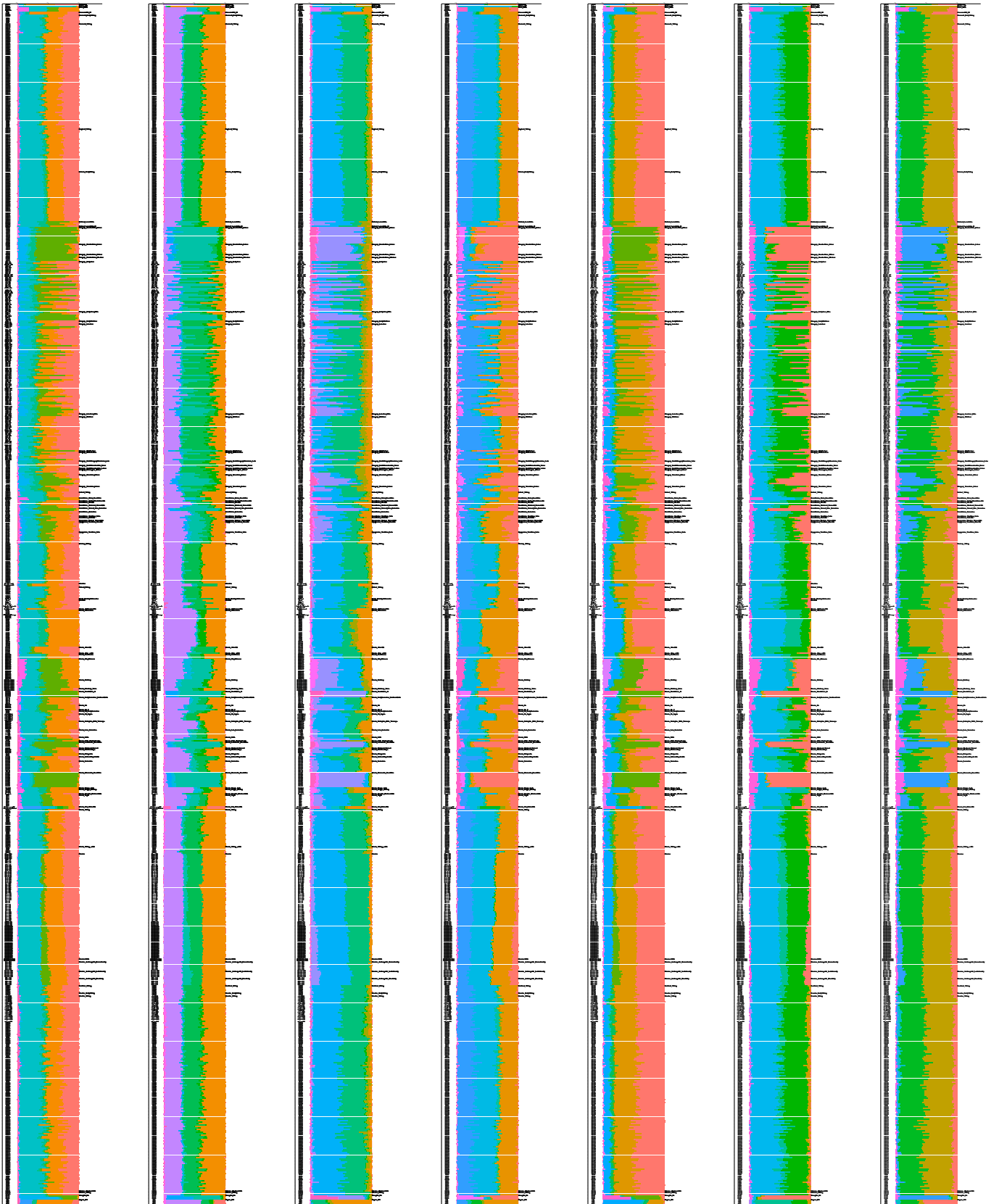
Note. The green color indicates statistically significant results of qpAdm modeling of Viking populations ( $p$ -value  $> 0.05$ ).

# Supplementary 11

Results of PCA analysis



# Supplementary 12



# Supplementary 13

**Table.** Results of qpWave analysis to determine the minimum number of ancestry sources for modeling the genome of Prince Dmitry Alexandrovich.

left = c("Rurik\_DA," "Denmark\_EarlyViking," "Sweden\_EarlyViking," "Russia\_LBA," "Russia\_Afanasievo," "Russia\_IA\_2," "Russia\_Lokomotiv\_Eneolithic," "Russia\_Shamanka\_Eneolithic," "Russia\_BA\_Okunevo," "Hungary\_LateAvar," "Kyrgyzstan\_TianShan\_Saka," "Kazakhstan\_TianShan\_Saka," "Sunghir6," "Shekshovo9")

rank	df	chisq	p-value
0	126	A	1.63931763E-157
1	104	210.657	0.0000000031346044
2	84	88.837	0.338161802
3	66	58.919	0.719460077
4	50	30.756	0.985322511
5	36	19.17	0.99029658
6	24	8.228	0.998842417
7	14	2.893	0.99924776
8	6	1.245	0.974589854
9	0	0	1

Note. The green color indicates statistically significant results of modeling the genome of Dmitry Aleksandrovich (p-value > 0.05).

## Supplementary 14

**Table 1.** The results of qpAdm modeling of the genome of Prince Dmitry Alexandrovich as a three-way admixture of "Vikings," the early medieval population of Central Europe, which includes a well-known component of the steppe nomads and the ancient East Eurasian component

V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Denmark_EarlyViking	Hungary_LateAvar	Finland_Levanluhta_B	-0.441	-0.025	1.465	0.234	0.478	0.708	0.296006
Denmark_EarlyViking	Hungary_LateAvar	Russia_Afanasievo	-0.141	0.878	0.263	0.08	0.053	0.094	0.651743
Denmark_EarlyViking	Hungary_LateAvar	Russia_Andronovo	-0.411	0.893	0.518	0.274	0.061	0.307	0.418682
Denmark_EarlyViking	Hungary_LateAvar	Russia_Chalmny_Varre	0.039	0.966	-0.006	0.053	0.106	0.119	0.124828
Denmark_EarlyViking	Hungary_LateAvar	Russia_IA_Ingria	-0.043	0.925	0.118	0.316	0.14	0.445	0.125375
Denmark_EarlyViking	Hungary_LateAvar	Russia_IA	0.119	0.708	0.173	0.077	0.183	0.117	0.243448
Denmark_EarlyViking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.039	1.068	-0.029	0.138	0.189	0.053	0.121992
Denmark_EarlyViking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.044	1.072	-0.028	0.133	0.178	0.047	0.11309
Denmark_EarlyViking	Hungary_LateAvar	Russia_LBA	0.071	0.823	0.106	0.07	0.219	0.161	0.139919
Denmark_EarlyViking	Hungary_LateAvar	Russia_BA_Okunevo	0.096	0.827	0.077	0.06	0.091	0.042	0.260647
Denmark_EarlyViking	Hungary_LateAvar	Finland_Levanluhta	0.034	0.877	0.089	0.047	0.18	0.182	0.136973
Denmark_EarlyViking	Hungary_LateAvar	Russia_Bolshoy	0.054	0.915	0.031	0.056	0.091	0.049	0.136357
Denmark_EarlyViking	Hungary_LateAvar	Russia_IA_2	0.06	0.917	0.023	0.142	0.251	0.112	0.127281
Denmark_Viking	Hungary_LateAvar	Russia_IA	0.123	0.698	0.178	0.077	0.184	0.118	0.222
Denmark_Viking	Hungary_LateAvar	Finland_Levanluhta_B	-0.489	-0.112	1.601	3.042	6.074	9.116	0.113474
Denmark_Viking	Hungary_LateAvar	Russia_Afanasievo	-0.129	0.875	0.253	0.078	0.053	0.091	0.609706
Denmark_Viking	Hungary_LateAvar	Russia_Andronovo	-0.323	0.899	0.423	0.232	0.058	0.26	0.309459
Denmark_Viking	Hungary_LateAvar	Russia_Chalmny_Varre	0.041	0.96	-0.002	0.05	0.106	0.114	0.120689
Denmark_Viking	Hungary_LateAvar	Russia_IA_Ingria	-0.005	0.937	0.068	0.208	0.103	0.295	0.116124
Denmark_Viking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.04	1.069	-0.029	0.138	0.189	0.053	0.121414
Denmark_Viking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.052	1.081	-0.03	0.135	0.18	0.048	0.112039
Denmark_Viking	Hungary_LateAvar	Russia_BA_Okunevo	0.1	0.82	0.079	0.059	0.092	0.042	0.237972
Denmark_Viking	Hungary_LateAvar	Russia_LBA	0.073	0.825	0.102	0.07	0.223	0.165	0.129548
Denmark_Viking	Hungary_LateAvar	Finland_Levanluhta	0.037	0.882	0.08	0.046	0.184	0.184	0.129206
Denmark_Viking	Hungary_LateAvar	Russia_IA_2	0.067	0.906	0.027	0.141	0.25	0.112	0.124971
Denmark_Viking	Hungary_LateAvar	Russia_Bolshoy	0.057	0.91	0.033	0.056	0.092	0.049	0.129711
England_Viking	Hungary_LateAvar	Russia_IA	0.11	0.728	0.162	0.075	0.183	0.117	0.192791
England_Viking	Hungary_LateAvar	Finland_Levanluhta_B	-0.42	0.033	1.386	0.228	0.448	0.673	0.208688
England_Viking	Hungary_LateAvar	Russia_Afanasievo	-0.136	0.877	0.259	0.076	0.053	0.089	0.653457
England_Viking	Hungary_LateAvar	Russia_Andronovo	-0.416	0.892	0.525	0.232	0.058	0.26	0.461488
England_Viking	Hungary_LateAvar	Russia_IA_2	0.028	0.974	-0.002	0.137	0.245	0.111	0.113802
England_Viking	Hungary_LateAvar	Russia_IA_Ingria	-0.07	0.913	0.157	0.192	0.1	0.277	0.123796
England_Viking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.072	1.113	-0.041	0.13	0.177	0.05	0.12164

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V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
England_Viking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.082	1.122	-0.04	0.127	0.17	0.045	0.112389
England_Viking	Hungary_LateAvar	Russia_BA_Okunevo	0.091	0.834	0.075	0.058	0.091	0.042	0.2109
England_Viking	Hungary_LateAvar	Russia_LBA	0.059	0.864	0.077	0.07	0.225	0.167	0.117644
England_Viking	Hungary_LateAvar	Finland_Levanluhta	0.032	0.887	0.081	0.045	0.184	0.184	0.1251
England_Viking	Hungary_LateAvar	Russia_Bolshoy	0.05	0.921	0.029	0.055	0.091	0.049	0.121585
England_Viking	Hungary_LateAvar	Russia_Chalmny_Varre	0.035	0.963	0.002	0.05	0.106	0.115	0.116161
Estonia_EarlyViking	Hungary_LateAvar	Russia_IA	0.089	0.772	0.138	0.069	0.167	0.11	0.176017
Estonia_EarlyViking	Hungary_LateAvar	Finland_Levanluhta_B	-0.377	0.095	1.281	0.186	0.381	0.564	0.189759
Estonia_EarlyViking	Hungary_LateAvar	Russia_Afanasiovo	-0.125	0.876	0.249	0.072	0.053	0.087	0.628485
Estonia_EarlyViking	Hungary_LateAvar	Russia_Andronovo	-0.323	0.893	0.43	0.189	0.058	0.219	0.380178
Estonia_EarlyViking	Hungary_LateAvar	Russia_Chalmny_Varre	0.033	0.97	-0.003	0.052	0.106	0.121	0.115115
Estonia_EarlyViking	Hungary_LateAvar	Russia_IA_2	0.023	0.981	-0.004	0.105	0.187	0.087	0.117997
Estonia_EarlyViking	Hungary_LateAvar	Russia_IA_Ingria	-0.135	0.885	0.25	0.243	0.125	0.357	0.144286
Estonia_EarlyViking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.042	1.072	-0.03	0.103	0.141	0.041	0.129002
Estonia_EarlyViking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.049	1.078	-0.029	0.101	0.135	0.037	0.125598
Estonia_EarlyViking	Hungary_LateAvar	Russia_BA_Okunevo	0.077	0.855	0.068	0.055	0.086	0.041	0.205121
Estonia_EarlyViking	Hungary_LateAvar	Russia_LBA	0.051	0.885	0.064	0.064	0.206	0.154	0.118598
Estonia_EarlyViking	Hungary_LateAvar	Finland_Levanluhta	0.027	0.898	0.075	0.045	0.182	0.186	0.123014
Estonia_EarlyViking	Hungary_LateAvar	Russia_Bolshoy	0.041	0.935	0.024	0.051	0.085	0.047	0.121041
Ireland_Viking	Hungary_LateAvar	Russia_IA	0.109	0.73	0.16	0.074	0.179	0.115	0.226985
Ireland_Viking	Hungary_LateAvar	Russia_BA_Okunevo	0.089	0.837	0.073	0.058	0.089	0.042	0.242723
Ireland_Viking	Hungary_LateAvar	Finland_Levanluhta_B	-0.45	-0.027	1.477	0.271	0.525	0.793	0.158712
Ireland_Viking	Hungary_LateAvar	Russia_Afanasiovo	-0.137	0.881	0.257	0.08	0.054	0.093	0.644018
Ireland_Viking	Hungary_LateAvar	Russia_Andronovo	-0.438	0.892	0.546	0.29	0.061	0.32	0.473396
Ireland_Viking	Hungary_LateAvar	Russia_Chalmny_Varre	0.035	0.968	-0.003	0.052	0.106	0.118	0.122401
Ireland_Viking	Hungary_LateAvar	Russia_IA_Ingria	-0.055	0.923	0.132	0.25	0.119	0.356	0.129845
Ireland_Viking	Hungary_LateAvar	Russia_LBA	0.061	0.852	0.086	0.066	0.207	0.154	0.13287
Ireland_Viking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.037	1.066	-0.028	0.124	0.168	0.047	0.120968
Ireland_Viking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.047	1.076	-0.029	0.123	0.163	0.043	0.114809
Ireland_Viking	Hungary_LateAvar	Finland_Levanluhta	0.031	0.879	0.09	0.046	0.18	0.181	0.134937
Ireland_Viking	Hungary_LateAvar	Russia_Bolshoy	0.049	0.923	0.028	0.054	0.089	0.048	0.13128
Ireland_Viking	Hungary_LateAvar	Russia_IA_2	0.046	0.941	0.013	0.131	0.231	0.104	0.12269
Norway_Viking	Hungary_LateAvar	Russia_IA	0.102	0.749	0.149	0.073	0.174	0.112	0.187127
Norway_Viking	Hungary_LateAvar	Russia_BA_Okunevo	0.086	0.843	0.071	0.058	0.089	0.041	0.211075
Norway_Viking	Hungary_LateAvar	Finland_Levanluhta_B	-0.407	0.078	1.329	0.196	0.38	0.573	0.188342
Norway_Viking	Hungary_LateAvar	Russia_Afanasiovo	-0.13	0.881	0.249	0.076	0.054	0.088	0.624309
Norway_Viking	Hungary_LateAvar	Russia_Andronovo	-0.34	0.907	0.433	0.208	0.055	0.23	0.368473
Norway_Viking	Hungary_LateAvar	Russia_Chalmny_Varre	0.036	0.967	-0.004	0.053	0.105	0.12	0.116633

RESEARCH ARTICLES

V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Norway_Viking	Hungary_LateAvar	Russia_LBA	0.058	0.87	0.072	0.067	0.211	0.156	0.12121
Norway_Viking	Hungary_LateAvar	Russia_IA_Ingria	-0.109	0.902	0.207	0.263	0.12	0.37	0.134523
Norway_Viking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.043	1.073	-0.029	0.113	0.154	0.043	0.128676
Norway_Viking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.05	1.079	-0.028	0.111	0.147	0.039	0.123819
Norway_Viking	Hungary_LateAvar	Finland_Levanluhta	0.03	0.893	0.076	0.047	0.182	0.186	0.124871
Norway_Viking	Hungary_LateAvar	Russia_Bolshoy	0.046	0.928	0.025	0.054	0.087	0.047	0.122216
Norway_Viking	Hungary_LateAvar	Russia_IA_2	0.031	0.969	0	0.113	0.198	0.089	0.118825
Poland_Viking	Hungary_LateAvar	Russia_IA	0.101	0.75	0.149	0.069	0.166	0.108	0.219572
Poland_Viking	Hungary_LateAvar	Russia_BA_Okunevo	0.084	0.847	0.069	0.055	0.084	0.04	0.238993
Poland_Viking	Hungary_LateAvar	Russia_LBA	0.058	0.867	0.075	0.062	0.199	0.15	0.13095
Poland_Viking	Hungary_LateAvar	Finland_Levanluhta_B	-0.449	-0.067	1.516	0.361	0.747	1.106	0.188035
Poland_Viking	Hungary_LateAvar	Russia_Afanasievo	-0.112	0.878	0.234	0.074	0.054	0.089	0.582092
Poland_Viking	Hungary_LateAvar	Russia_Andronovo	-0.39	0.883	0.508	0.313	0.066	0.355	0.38915
Poland_Viking	Hungary_LateAvar	Russia_Chalmny_Varre	0.039	0.972	-0.011	0.052	0.107	0.123	0.124842
Poland_Viking	Hungary_LateAvar	Russia_IA_Ingria	-0.036	0.925	0.111	0.243	0.125	0.356	0.122319
Poland_Viking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.02	1.044	-0.023	0.102	0.139	0.04	0.113906
Poland_Viking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.028	1.052	-0.024	0.101	0.135	0.037	0.103185
Poland_Viking	Hungary_LateAvar	Finland_Levanluhta	0.032	0.889	0.079	0.046	0.182	0.188	0.133986
Poland_Viking	Hungary_LateAvar	Russia_Bolshoy	0.048	0.925	0.026	0.051	0.084	0.047	0.132253
Poland_Viking	Hungary_LateAvar	Russia_IA_2	0.043	0.949	0.008	0.104	0.184	0.086	0.12059
Russia_Viking	Hungary_LateAvar	Russia_IA	0.118	0.717	0.165	0.079	0.184	0.116	0.209545
Russia_Viking	Hungary_LateAvar	Russia_BA_Okunevo	0.098	0.827	0.076	0.062	0.093	0.042	0.231392
Russia_Viking	Hungary_LateAvar	Russia_LBA	0.066	0.848	0.086	0.072	0.223	0.162	0.124357
Russia_Viking	Hungary_LateAvar	Finland_Levanluhta	0.034	0.883	0.083	0.048	0.182	0.183	0.12919
Russia_Viking	Hungary_LateAvar	Finland_Levanluhta_B	-0.42	0.08	1.34	0.215	0.398	0.61	0.178287
Russia_Viking	Hungary_LateAvar	Russia_Afanasievo	-0.133	0.886	0.247	0.079	0.054	0.088	0.624763
Russia_Viking	Hungary_LateAvar	Russia_Andronovo	-0.37	0.916	0.454	0.248	0.055	0.267	0.350765
Russia_Viking	Hungary_LateAvar	Russia_Chalmny_Varre	0.039	0.963	-0.001	0.054	0.106	0.116	0.118776
Russia_Viking	Hungary_LateAvar	Russia_IA_Ingria	-0.073	0.917	0.156	0.236	0.101	0.32	0.123139
Russia_Viking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.057	1.092	-0.034	0.134	0.18	0.049	0.121858
Russia_Viking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.065	1.098	-0.033	0.13	0.172	0.044	0.10984
Russia_Viking	Hungary_LateAvar	Russia_Bolshoy	0.053	0.918	0.029	0.057	0.093	0.048	0.125786
Russia_Viking	Hungary_LateAvar	Russia_IA_2	0.039	0.956	0.005	0.137	0.237	0.104	0.117228
Scotland_Viking	Hungary_LateAvar	Russia_IA	0.104	0.74	0.156	0.074	0.18	0.116	0.208716
Scotland_Viking	Hungary_LateAvar	Russia_BA_Okunevo	0.088	0.84	0.073	0.058	0.09	0.042	0.233738
Scotland_Viking	Hungary_LateAvar	Russia_LBA	0.055	0.869	0.076	0.069	0.226	0.167	0.120701
Scotland_Viking	Hungary_LateAvar	Finland_Levanluhta	0.028	0.884	0.088	0.045	0.181	0.183	0.12975
Scotland_Viking	Hungary_LateAvar	Finland_Levanluhta_B	-0.386	0.081	1.304	0.154	0.313	0.462	0.30812
Scotland_Viking	Hungary_LateAvar	Russia_Afanasievo	-0.137	0.878	0.259	0.076	0.054	0.09	0.669972



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V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Scotland_Viking	Hungary_LateAvar	Russia_Andronovo	-0.476	0.882	0.594	0.286	0.064	0.321	0.547126
Scotland_Viking	Hungary_LateAvar	Russia_IA_2	0.016	0.996	-0.012	0.129	0.231	0.106	0.112637
Scotland_Viking	Hungary_LateAvar	Russia_IA_Ingria	-0.141	0.883	0.258	0.236	0.122	0.346	0.13905
Scotland_Viking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.068	1.109	-0.041	0.12	0.164	0.047	0.125476
Scotland_Viking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.078	1.118	-0.04	0.116	0.156	0.042	0.108452
Scotland_Viking	Hungary_LateAvar	Russia_Bolshoy	0.045	0.929	0.026	0.053	0.089	0.048	0.124805
Scotland_Viking	Hungary_LateAvar	Russia_Chalmny_Varre	0.032	0.967	0.001	0.051	0.106	0.118	0.117421
Sweden_EarlyViking	Hungary_LateAvar	Russia_IA	0.466	0.396	0.138	0.251	0.318	0.08	0.289587
Sweden_EarlyViking	Hungary_LateAvar	Russia_BA_Okunevo	0.367	0.568	0.064	0.212	0.227	0.028	0.252997
Sweden_EarlyViking	Hungary_LateAvar	Russia_LBA	0.307	0.595	0.098	0.253	0.358	0.124	0.15493
Sweden_EarlyViking	Hungary_LateAvar	Finland_Levanluhta	0.159	0.757	0.084	0.225	0.225	0.167	0.140858
Sweden_EarlyViking	Hungary_LateAvar	Russia_Bolshoy	0.207	0.765	0.027	0.244	0.263	0.039	0.131163
Sweden_EarlyViking	Hungary_LateAvar	Finland_Levanluhta_B	6.792	-1.279	-4.514	17.051	May-55	11.531	0.502334
Sweden_EarlyViking	Hungary_LateAvar	Russia_Afanasievo	-1.992	2.304	0.688	3.783	2.718	1.079	0.685815
Sweden_EarlyViking	Hungary_LateAvar	Russia_Andronovo	3.365	-1.548	-0.817	5.468	4.036	1.438	0.537924
Sweden_EarlyViking	Hungary_LateAvar	Russia_Chalmny_Varre	0.207	0.814	-0.021	0.259	0.203	0.119	0.130899
Sweden_EarlyViking	Hungary_LateAvar	Russia_IA_2	1.369	-0.584	0.215	0.71	0.829	0.12	0.254835
Sweden_EarlyViking	Hungary_LateAvar	Russia_IA_Ingria	-2.99	3.017	0.973	86.15	59.853	26.299	0.158772
Sweden_EarlyViking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	5.116	-4.525	0.409	140.436	152.024	11.588	0.139757
Sweden_EarlyViking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	8.901	-8.559	0.659	185.718	199.732	14.014	0.121987
Sweden_Viking	Hungary_LateAvar	Russia_IA	0.104	0.742	0.154	0.074	0.178	0.115	0.180498
Sweden_Viking	Hungary_LateAvar	Russia_BA_Okunevo	0.087	0.841	0.073	0.058	0.089	0.041	0.201911
Sweden_Viking	Hungary_LateAvar	Russia_LBA	0.057	0.871	0.071	0.068	0.219	0.163	0.115118
Sweden_Viking	Hungary_LateAvar	Finland_Levanluhta	0.031	0.894	0.075	0.046	0.184	0.186	0.122403
Sweden_Viking	Hungary_LateAvar	Russia_Bolshoy	0.047	0.925	0.027	0.054	0.089	0.048	0.119463
Sweden_Viking	Hungary_LateAvar	Finland_Levanluhta_B	-0.413	0.047	1.366	0.218	0.431	0.646	0.192613
Sweden_Viking	Hungary_LateAvar	Russia_Afanasievo	-0.132	0.876	0.256	0.076	0.053	0.089	0.638609
Sweden_Viking	Hungary_LateAvar	Russia_Andronovo	-0.411	0.89	0.52	0.231	0.058	0.26	0.437582
Sweden_Viking	Hungary_LateAvar	Russia_Chalmny_Varre	0.036	0.965	-0.001	0.051	0.106	0.117	0.114835
Sweden_Viking	Hungary_LateAvar	Russia_IA_2	0.029	0.971	-0.001	0.123	0.219	0.099	0.115103
Sweden_Viking	Hungary_LateAvar	Russia_IA_Ingria	-0.083	0.908	0.176	0.213	0.107	0.306	0.12641
Sweden_Viking	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.056	1.091	-0.034	0.118	0.161	0.045	0.124475
Sweden_Viking	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.065	1.099	-0.033	0.115	0.154	0.041	0.115355

Note. The green color indicates statistically significant results of modeling the genome of Dmitry Aleksandrovich (p-value > 0.05).

**Table 2.** The results of qpAdm modeling of Oland\_Sweden\_EarlyViking and Oland\_Sweden\_Viking as a three-ways admixture

	Barcin_EN.SG	Loschbour_M.SG	Yamnaya_EBA.SG	stderr_Barcin_EN.SG	stderr_Loschbour_M.SG	stderr_Yamnaya_EBA.SG	p-value
Oland_Sweden_Viking	0.442	0.112	0.446	0.051	0.007	0.051	0.0108669
Oland_Sweden_EarlyViking	0.545	0.111	0.344	0.149	0.023	0.149	0.643981

Note. The green color indicates statistically significant results of modeling (p-value > 0.05).

**Table 3.** The results of qpAdm modeling of Oland\_Sweden\_EarlyViking and Oland\_Sweden\_Viking using a single source group

	Oland_Sweden_Viking	Oland_Sweden_EarlyViking	
RomanUK_IA	0.000669509124	0.639618804	p-value for rank 0
England_IA	0.749930772	0.631517231	
AngloSaxon_IA	0.0000539709651	0.627197599	
Denmark_IA	0.00450647073	0.996370345	
Norway_IA	0.0000523612348	0.0397264163	
Longobard_EMED	0.0000132178505	0.015099078	
Sunghir6	0.00614049351	0.542666043	

Note. The green color indicates statistically significant results of modeling (p > 0.05).

**Table 4.** The results of qpAdm modeling of the "Vikings" group using a single source group (Sungir6)

target	rank	p-value
NorwayN_VA.SG	0	0.482154457
Ingria_IA.SG	0	0.434654208
Sigtuna_VA.SG	0	0.383728511
EarlyNorseGreenlandE_VA.SG	0	0.316741023
NorwayM_MED.SG	0	0.178160264
Iceland_VA.SG	0	0.167926137
Iceland2_VA.SG	0	0.0972116761
Zealand_EVA.SG	0	0.0853631805
Ireland_VA.SG	0	0.0794372681
NorwayS_VA.SG	0	0.0589518859
Ladoga_VA.SG	0	0.057101517
Salme_EVA.SG	0	0.0524718378
Gnezdovo_VA.SG	0	0.0478962631
Bavaria_EMED.SG	0	0.0451268614
Gotland_VA.SG	0	0.0315153421
Skara_VA.SG	0	0.0307043032
Langeland_VA.SG	0	0.0188968566
Funen_VA.SG	0	0.0150241817
Orkney_VA.SG	0	0.013592492
Bodzia_VA.SG	0	0.0121939809

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HungarianScythian_IA.SG	0	0.0120883369
Oxford_VA.SG	0	0.00915599977
Dorset_VA.SG	0	0.00637225075
Jutland_VA.SG	0	0.00534310625
Estonia_IA.SG	0	0.000782132183
Estonia_MED.SG	0	0.0000492770562
Karda_VA.SG	0	0.000028141531
Foggia_MED.SG	0	3.19435689E-14

Note. The green color indicates statistically significant results of modeling (p-value > 0.05).

**Table 5.** The results of qpAdm modeling of the genome of Prince Dmitry Alexandrovich as a three-ways admixture ("Vikings," the ancient East-Eurasian component and steppe nomadic peoples of the Eurasian steppes of the Iron Age)

V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Denmark_EarlyViking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.028	0.944	0.028	0.034	0.057	0.025	0.0856918
Denmark_EarlyViking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.083	0.844	0.073	0.044	0.074	0.032	0.412637
Denmark_EarlyViking	Kazakhstan_TianShan_Saka	Russia_IA	0.062	0.829	0.108	0.045	0.11	0.067	0.207771
Denmark_EarlyViking	Kazakhstan_TianShan_Saka	Russia_LBA	0.045	0.831	0.124	0.032	0.1	0.07	0.14188
Denmark_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.082	0.884	0.035	0.041	0.055	0.015	0.224405
Denmark_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.051	0.815	0.134	0.03	0.086	0.059	0.435973
Denmark_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.077	0.893	0.031	0.039	0.05	0.013	0.217388
Denmark_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.136	0.854	0.01	0.062	0.107	0.131	0.281218
Denmark_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.202	0.722	0.077	0.106	0.2	0.099	0.300769
Denmark_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.207	0.755	0.038	0.099	0.138	0.042	0.229067
Denmark_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.154	0.753	0.093	0.061	0.223	0.182	0.297325
Denmark_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.196	0.774	0.03	0.099	0.134	0.039	0.1973
Denmark_Viking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.026	0.947	0.027	0.036	0.061	0.026	0.0681117
Denmark_Viking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.085	0.839	0.076	0.048	0.082	0.035	0.350805
Denmark_Viking	Kazakhstan_TianShan_Saka	Russia_IA	0.065	0.822	0.113	0.052	0.126	0.076	0.176598
Denmark_Viking	Kazakhstan_TianShan_Saka	Russia_LBA	0.045	0.832	0.123	0.035	0.108	0.075	0.118985
Denmark_Viking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.084	0.881	0.035	0.045	0.061	0.016	0.169022
Denmark_Viking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.05	0.817	0.133	0.032	0.091	0.063	0.378333
Denmark_Viking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.079	0.889	0.032	0.042	0.055	0.014	0.164125
Denmark_Viking	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.14	0.844	0.016	0.06	0.106	0.127	0.279534
Denmark_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.21	0.708	0.082	0.102	0.192	0.096	0.293938
Denmark_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA	0.143	0.852	0.005	0.092	0.285	0.204	0.290794
Denmark_Viking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.215	0.744	0.041	0.096	0.133	0.041	0.260512
Denmark_Viking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.157	0.753	0.09	0.059	0.218	0.178	0.288381
Denmark_Viking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.205	0.761	0.034	0.096	0.13	0.038	0.223996
England_Viking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.022	0.953	0.025	0.035	0.06	0.026	0.0656352

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V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
England_Viking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.077	0.853	0.07	0.046	0.078	0.034	0.303851
England_Viking	Kazakhstan_TianShan_Saka	Russia_IA	0.059	0.838	0.104	0.05	0.122	0.074	0.155113
England_Viking	Kazakhstan_TianShan_Saka	Russia_LBA	0.039	0.848	0.112	0.034	0.106	0.074	0.104773
England_Viking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.076	0.892	0.032	0.043	0.057	0.015	0.144936
England_Viking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.048	0.824	0.128	0.031	0.089	0.062	0.35172
England_Viking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.071	0.9	0.029	0.04	0.053	0.013	0.140313
England_Viking	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.134	0.847	0.019	0.061	0.106	0.129	0.250259
England_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.188	0.748	0.064	0.101	0.191	0.096	0.249338
England_Viking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.19	0.779	0.031	0.093	0.129	0.04	0.216049
England_Viking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.147	0.783	0.069	0.059	0.218	0.179	0.254225
England_Viking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.179	0.796	0.025	0.093	0.126	0.037	0.193511
Estonia_EarlyViking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.023	0.951	0.026	0.029	0.05	0.023	0.0735296
Estonia_EarlyViking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.062	0.878	0.06	0.036	0.062	0.028	0.278053
Estonia_EarlyViking	Kazakhstan_TianShan_Saka	Russia_IA	0.049	0.859	0.092	0.04	0.101	0.063	0.151669
Estonia_EarlyViking	Kazakhstan_TianShan_Saka	Russia_LBA	0.036	0.858	0.106	0.028	0.089	0.064	0.110573
Estonia_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.061	0.912	0.028	0.035	0.046	0.013	0.128598
Estonia_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.041	0.843	0.117	0.027	0.08	0.057	0.328068
Estonia_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.058	0.917	0.025	0.033	0.043	0.011	0.123119
Estonia_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.163	0.796	0.041	0.086	0.163	0.084	0.257642
Estonia_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.166	0.813	0.021	0.082	0.113	0.036	0.214035
Estonia_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.14	0.813	0.047	0.055	0.206	0.173	0.258357
Estonia_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.157	0.828	0.016	0.082	0.11	0.033	0.180961
Finland_Levanluhta_B	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.058	0.921	0.021	0.098	0.116	0.021	0.0626992
Finland_Levanluhta_B	Kazakhstan_TianShan_Saka	Russia_IA_2	0.182	0.766	0.052	0.091	0.109	0.021	0.316091
Finland_Levanluhta_B	Kazakhstan_TianShan_Saka	Russia_IA	0.13	0.797	0.074	0.102	0.144	0.046	0.134991
Finland_Levanluhta_B	Kazakhstan_TianShan_Saka	Russia_LBA	0.09	0.827	0.083	0.09	0.139	0.055	0.0763465
Finland_Levanluhta_B	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.179	0.797	0.024	0.095	0.104	0.01	0.175474
Finland_Levanluhta_B	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.108	0.793	0.099	0.07	0.105	0.043	0.295032
Finland_Levanluhta_B	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.171	0.807	0.022	0.091	0.099	0.009	0.160393
Finland_Levanluhta_B	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.214	0.723	0.063	0.167	0.124	0.125	0.133388
Finland_Levanluhta	Kazakhstan_TianShan_Saka	Russia_IA_2	0.116	0.879	0.004	0.065	0.058	0.013	0.296121
Finland_Levanluhta	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.122	0.877	0.001	0.065	0.061	0.006	0.251389
Finland_Levanluhta	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.107	0.876	0.017	0.076	0.055	0.044	0.298585
Finland_Levanluhta	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.122	0.877	0.001	0.065	0.062	0.006	0.23281
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	PLO_217	0.018	0.83	0.151	0.194	0.169	0.061	0.377819
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	PLO_272	0.035	0.789	0.175	0.181	0.159	0.07	0.382596

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V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_Afnasievo	0.181	0.739	0.08	0.181	0.19	0.063	0.0945555
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_Andronovo	0.111	0.779	0.109	0.189	0.175	0.062	0.157204
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_EarlySarmatian_SouthernUrals	0.16	0.652	0.188	0.179	0.236	0.172	0.101451
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_IA_EarlySarmatian	0.132	0.607	0.261	0.17	0.196	0.141	0.190494
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_IA_Ingria	0.011	0.815	0.174	0.2	0.166	0.082	0.241107
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_Late_Sarmatian	0.176	0.619	0.204	0.173	0.206	0.118	0.168094
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_Mezhovskaya	0.082	0.779	0.139	0.237	0.185	0.166	0.0895471
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_Potapovka	0.166	0.768	0.066	0.182	0.233	0.193	0.065324
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_Sarmatian	0.218	0.596	0.186	0.174	0.223	0.116	0.140474
Finland_Levanluhta	Kyrgyzstan_TianShan_Saka	Russia_Tagar	0.184	0.816	0	0.291	0.179	0.241	0.0640318
Ireland_Viking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.02	0.958	0.023	0.035	0.058	0.025	0.0752256
Ireland_Viking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.071	0.864	0.065	0.045	0.076	0.033	0.299044
Ireland_Viking	Kazakhstan_TianShan_Saka	Russia_IA	0.054	0.85	0.096	0.051	0.125	0.076	0.153231
Ireland_Viking	Kazakhstan_TianShan_Saka	Russia_LBA	0.036	0.86	0.104	0.034	0.103	0.072	0.10592
Ireland_Viking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.068	0.902	0.03	0.042	0.056	0.015	0.147476
Ireland_Viking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.043	0.836	0.12	0.031	0.089	0.062	0.33927
Ireland_Viking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.065	0.908	0.027	0.04	0.052	0.013	0.144401
Ireland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.136	0.855	0.009	0.062	0.107	0.132	0.285063
Ireland_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.186	0.752	0.061	0.099	0.186	0.094	0.292326
Ireland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.183	0.789	0.027	0.09	0.125	0.039	0.224415
Ireland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.149	0.776	0.075	0.058	0.213	0.176	0.295325
Ireland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.173	0.806	0.021	0.092	0.124	0.036	0.188334
Norway_Viking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.029	0.943	0.028	0.032	0.053	0.023	0.0788695
Norway_Viking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.068	0.87	0.062	0.038	0.064	0.028	0.307573
Norway_Viking	Kazakhstan_TianShan_Saka	Russia_IA	0.058	0.843	0.1	0.043	0.104	0.063	0.178915
Norway_Viking	Kazakhstan_TianShan_Saka	Russia_LBA	0.041	0.847	0.112	0.03	0.091	0.064	0.124425
Norway_Viking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.069	0.901	0.03	0.037	0.049	0.013	0.147258
Norway_Viking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.045	0.834	0.12	0.028	0.081	0.057	0.361579
Norway_Viking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.066	0.907	0.027	0.035	0.045	0.011	0.139744
Norway_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.176	0.777	0.047	0.09	0.166	0.084	0.278461
Norway_Viking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.182	0.793	0.025	0.086	0.118	0.037	0.233912
Norway_Viking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.149	0.794	0.057	0.057	0.207	0.172	0.276576
Norway_Viking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.172	0.808	0.02	0.086	0.115	0.034	0.202516
Poland_Viking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.024	0.951	0.025	0.029	0.049	0.022	0.0836182
Poland_Viking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.068	0.87	0.062	0.036	0.061	0.027	0.38749
Poland_Viking	Kazakhstan_TianShan_Saka	Russia_IA	0.051	0.858	0.091	0.039	0.096	0.059	0.189342
Poland_Viking	Kazakhstan_TianShan_Saka	Russia_LBA	0.038	0.857	0.106	0.029	0.087	0.062	0.129852
Poland_Viking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.066	0.905	0.029	0.034	0.046	0.012	0.247027

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V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Poland_Viking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.043	0.839	0.118	0.027	0.077	0.054	0.387348
Poland_Viking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.063	0.911	0.026	0.033	0.043	0.011	0.238428
Poland_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.165	0.794	0.04	0.093	0.174	0.088	0.274113
Poland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.169	0.81	0.021	0.088	0.121	0.038	0.2545
Poland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.141	0.808	0.051	0.057	0.21	0.175	0.273216
Poland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.162	0.821	0.016	0.088	0.119	0.035	0.236953
Russia_Bolshoy	Kazakhstan_TianShan_Saka	PLO_217	0.034	0.949	0.016	0.019	0.04	0.023	0.171474
Russia_Bolshoy	Kazakhstan_TianShan_Saka	PLO_272	0.037	0.937	0.026	0.019	0.044	0.028	0.190794
Russia_Bolshoy	Kazakhstan_TianShan_Saka	PLO_313	0.035	0.943	0.022	0.017	0.036	0.023	0.182301
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_Afnasievo	0.028	0.968	0.005	0.021	0.051	0.033	0.129066
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_Andronovo	0.032	0.955	0.013	0.019	0.04	0.025	0.147158
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_Chalmny_Varre	0.01	0.92	0.07	0.017	0.036	0.043	0.281682
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_IA_2	0.025	0.974	0.001	0.031	0.014	0.025	0.142143
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_IA_EarlySarmatian	0.027	0.968	0.005	0.03	0.147	0.12	0.128596
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_IA_Ingria	0.031	0.954	0.015	0.016	0.037	0.026	0.137986
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_Late_Sarmatian	0.026	0.974	0	0.039	0.166	0.129	0.133806
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_LBA_Priobrazhenka	0.025	0.953	0.022	0.014	0.104	0.107	0.115877
Russia_Bolshoy	Kazakhstan_TianShan_Saka	Russia_Mezhovskaya	0.028	0.946	0.027	0.015	0.065	0.058	0.159533
Russia_Viking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.025	0.949	0.026	0.038	0.064	0.027	0.0687606
Russia_Viking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.075	0.86	0.066	0.047	0.078	0.033	0.296241
Russia_Viking	Kazakhstan_TianShan_Saka	Russia_IA	0.063	0.832	0.105	0.053	0.125	0.074	0.164009
Russia_Viking	Kazakhstan_TianShan_Saka	Russia_LBA	0.041	0.848	0.111	0.036	0.108	0.074	0.107009
Russia_Viking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.073	0.897	0.03	0.044	0.058	0.015	0.153428
Russia_Viking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.048	0.826	0.126	0.033	0.091	0.062	0.347687
Russia_Viking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.069	0.904	0.027	0.042	0.053	0.013	0.148155
Russia_Viking	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.149	0.848	0.003	0.065	0.106	0.131	0.289197
Russia_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.199	0.739	0.062	0.098	0.18	0.089	0.304087
Russia_Viking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.203	0.766	0.031	0.094	0.127	0.039	0.271699
Russia_Viking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.159	0.77	0.072	0.059	0.21	0.173	0.300316
Russia_Viking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.193	0.782	0.025	0.093	0.124	0.035	0.246578
Scotland_Viking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.027	0.946	0.028	0.032	0.054	0.024	0.0830807
Scotland_Viking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.071	0.864	0.065	0.037	0.064	0.028	0.384895
Scotland_Viking	Kazakhstan_TianShan_Saka	Russia_IA	0.055	0.847	0.099	0.041	0.101	0.062	0.191893
Scotland_Viking	Kazakhstan_TianShan_Saka	Russia_LBA	0.041	0.842	0.116	0.03	0.094	0.066	0.133765
Scotland_Viking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.069	0.901	0.03	0.036	0.048	0.013	0.23634
Scotland_Viking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.044	0.834	0.122	0.027	0.08	0.056	0.385928
Scotland_Viking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.065	0.909	0.027	0.034	0.045	0.011	0.227934

## RESEARCH ARTICLES

V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Scotland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.129	0.859	0.011	0.061	0.108	0.133	0.245564
Scotland_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.166	0.788	0.046	0.097	0.185	0.094	0.254982
Scotland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.168	0.808	0.024	0.09	0.125	0.039	0.22218
Scotland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.139	0.802	0.058	0.057	0.216	0.18	0.255731
Scotland_Viking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.158	0.825	0.017	0.089	0.12	0.036	0.208509
Sweden_EarlyViking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.252	0.708	0.04	0.112	0.124	0.016	0.24256
Sweden_EarlyViking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.351	0.589	0.06	0.098	0.11	0.016	0.907101
Sweden_EarlyViking	Kazakhstan_TianShan_Saka	Russia_IA	0.313	0.589	0.098	0.122	0.152	0.037	0.555599
Sweden_EarlyViking	Kazakhstan_TianShan_Saka	Russia_LBA	0.286	0.576	0.138	0.099	0.135	0.043	0.511622
Sweden_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.351	0.621	0.029	0.096	0.102	0.007	0.767954
Sweden_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.248	0.636	0.115	0.091	0.117	0.037	0.744601
Sweden_EarlyViking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.338	0.636	0.026	0.094	0.1	0.007	0.723744
Sweden_EarlyViking	Kyrgyzstan_TianShan_Saka	PLO_217	0.403	0.572	0.025	1.49	1.008	0.484	0.396453
Sweden_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.468	0.526	0.006	0.134	0.107	0.084	0.406899
Sweden_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.634	0.305	0.061	0.13	0.162	0.038	0.554749
Sweden_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_IA	0.553	0.378	0.07	0.174	0.281	0.117	0.438617
Sweden_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.632	0.34	0.028	0.148	0.163	0.019	0.368724
Sweden_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.516	0.404	0.08	0.114	0.194	0.105	0.464524
Sweden_EarlyViking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.619	0.356	0.025	0.159	0.175	0.018	0.311861
Sweden_Viking	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.025	0.948	0.026	0.033	0.055	0.024	0.0686067
Sweden_Viking	Kazakhstan_TianShan_Saka	Russia_IA_2	0.073	0.86	0.067	0.041	0.07	0.031	0.316672
Sweden_Viking	Kazakhstan_TianShan_Saka	Russia_IA	0.057	0.841	0.101	0.046	0.112	0.068	0.164351
Sweden_Viking	Kazakhstan_TianShan_Saka	Russia_LBA	0.04	0.847	0.113	0.032	0.098	0.069	0.11355
Sweden_Viking	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.072	0.897	0.031	0.039	0.052	0.014	0.157148
Sweden_Viking	Kazakhstan_TianShan_Saka	Russia_Medieval_Nomad	0.047	0.828	0.126	0.03	0.085	0.059	0.358597
Sweden_Viking	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.068	0.904	0.028	0.037	0.048	0.012	0.152043
Sweden_Viking	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.139	0.855	0.006	0.062	0.107	0.132	0.255959
Sweden_Viking	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.182	0.76	0.058	0.095	0.179	0.09	0.259219
Sweden_Viking	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.185	0.786	0.029	0.089	0.123	0.039	0.231597
Sweden_Viking	Kyrgyzstan_TianShan_Saka	Russia_Medieval_Nomad	0.148	0.784	0.067	0.058	0.212	0.176	0.2615
Sweden_Viking	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.175	0.803	0.022	0.089	0.12	0.035	0.207546

Note. The green color indicates statistically significant results of the modeling of the genome of Prince Dmitry Alexandrovich (p-value > 0.05).

**Table 6.** The results of qpAdm modeling of the genome of Prince Dmitry Alexandrovich as a three-ways admixture (the Old Russian Slavic population, the ancient East-Eurasian component and the steppe nomadic peoples of the Eurasian steppes of the Iron Age, or the early medieval population of central Europe (steppe nomads from the territory of Hungary))

V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Shekshovo9	Hungary_LateAvar	Finland_Levanluhta_B	-0.52	0.186	1.334	0.506	0.672	1.175	0.044893
Shekshovo9	Hungary_LateAvar	Finland_Levanluhta	0.03	0.877	0.093	0.065	0.174	0.188	0.102758
Shekshovo9	Hungary_LateAvar	Russia_Afanasiovo	-0.161	0.921	0.24	0.1	0.061	0.089	0.526143
Shekshovo9	Hungary_LateAvar	Russia_Andronovo	-0.362	0.996	0.366	0.298	0.074	0.253	0.254569
Shekshovo9	Hungary_LateAvar	Russia_BA_Okunevo	0.089	0.848	0.063	0.069	0.092	0.038	0.180721
Shekshovo9	Hungary_LateAvar	Russia_Bolshoy	0.051	0.925	0.024	0.065	0.09	0.044	0.0993089
Shekshovo9	Hungary_LateAvar	Russia_Chalmny_Varre	0.05	0.971	-0.021	0.079	0.106	0.135	0.0937628
Shekshovo9	Hungary_LateAvar	Russia_IA_2	0.058	0.927	0.015	0.118	0.185	0.075	0.0949494
Shekshovo9	Hungary_LateAvar	Russia_IA_Ingria	-0.968	0.874	1.093	1.153	0.096	1.223	0.20245
Shekshovo9	Hungary_LateAvar	Russia_IA	0.108	0.762	0.131	0.081	0.162	0.097	0.165913
Shekshovo9	Hungary_LateAvar	Russia_LBA	0.073	0.837	0.09	0.076	0.195	0.137	0.104864
Shekshovo9	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.002	1.017	-0.014	0.117	0.147	0.034	0.0914737
Shekshovo9	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.008	1.022	-0.014	0.114	0.141	0.031	0.0875632
Shekshovo9	Kazakhstan_TianShan_Saka	Finland_Levanluhta_B	0.3	1.488	-0.788	0.383	0.634	1.014	0.192935
Shekshovo9	Kazakhstan_TianShan_Saka	Finland_Levanluhta	-0.002	0.874	0.128	0.021	0.054	0.053	0.248373
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_Afanasiovo	0.051	1.015	-0.066	0.029	0.023	0.032	0.133591
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_Andronovo	0.16	0.989	-0.149	0.068	0.022	0.061	0.376223
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.042	0.929	0.029	0.033	0.048	0.018	0.0904887
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_Bolshoy	0.028	0.934	0.037	0.023	0.034	0.016	0.177866
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_Chalmny_Varre	-0.025	0.923	0.101	0.024	0.035	0.041	0.269339
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_IA_2	0.077	0.867	0.057	0.037	0.056	0.022	0.421246
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_IA_Ingria	0.454	1.06	-0.515	0.199	0.042	0.223	0.874451
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_IA	0.062	0.853	0.085	0.039	0.08	0.045	0.199762
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_LBA	0.056	0.825	0.119	0.031	0.077	0.051	0.184491
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.072	0.904	0.024	0.036	0.045	0.01	0.198003
Shekshovo9	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.069	0.909	0.022	0.035	0.042	0.009	0.177346
Shekshovo9	Kyrgyzstan_TianShan_Saka	Finland_Levanluhta_B	1.555	2.525	-3.08	12.228	14.567	26.79	0.520444
Shekshovo9	Kyrgyzstan_TianShan_Saka	Finland_Levanluhta	0.159	0.825	0.016	0.08	0.169	0.207	0.305457
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_Afanasiovo	0.297	0.88	-0.177	0.105	0.069	0.113	0.523718
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_Andronovo	0.475	0.824	-0.299	0.243	0.065	0.221	0.499687
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_BA_Okunevo	0.115	0.95	-0.065	0.075	0.114	0.054	0.419751
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_Bolshoy	0.149	0.9	-0.048	0.065	0.094	0.054	0.372006
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.198	0.88	-0.079	0.095	0.111	0.16	0.326199
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.187	0.782	0.031	0.094	0.157	0.073	0.310989
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_IA_Ingria	0.875	0.91	-0.785	1.159	0.137	1.266	0.459362
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_IA	0.141	0.919	-0.06	0.083	0.211	0.148	0.321994
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_LBA	0.135	1.024	-0.16	0.083	0.312	0.259	0.335348
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.178	0.812	0.01	0.091	0.116	0.032	0.241146
Shekshovo9	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.168	0.825	0.006	0.09	0.113	0.029	0.204427
Sunghir6	Hungary_LateAvar	Finland_Levanluhta_B	0.087	1.092	-0.18	0.857	1.696	2.55	0.0878473



## RESEARCH ARTICLES

V1	V2	V3	V1-prop	V2-prop	V3-prop	V1-sterr	V2-sterr	V3-sterr	p-value
Sunghir6	Hungary_LateAvar	Finland_Levanluhta	0.021	0.874	0.106	0.052	0.174	0.178	0.1042
Sunghir6	Hungary_LateAvar	Russia_Afanasiovo	-0.127	0.9	0.227	0.083	0.056	0.088	0.525787
Sunghir6	Hungary_LateAvar	Russia_Andronovo	-0.246	0.942	0.304	0.218	0.054	0.222	0.258054
Sunghir6	Hungary_LateAvar	Russia_BA_Okunevo	0.091	0.833	0.075	0.066	0.098	0.042	0.213821
Sunghir6	Hungary_LateAvar	Russia_Bolshoy	0.042	0.93	0.028	0.059	0.092	0.048	0.100479
Sunghir6	Hungary_LateAvar	Russia_Chalmny_Varre	0.028	0.974	-0.002	0.06	0.107	0.123	0.0908938
Sunghir6	Hungary_LateAvar	Russia_IA_2	0.041	0.946	0.013	0.133	0.228	0.1	0.089046
Sunghir6	Hungary_LateAvar	Russia_IA_Ingria	-0.329	0.854	0.475	0.675	0.221	0.889	0.152676
Sunghir6	Hungary_LateAvar	Russia_IA	0.114	0.717	0.169	0.084	0.191	0.118	0.190248
Sunghir6	Hungary_LateAvar	Russia_LBA	0.07	0.809	0.121	0.077	0.227	0.161	0.107142
Sunghir6	Hungary_LateAvar	Russia_Lokomotiv_Eneolithic	-0.019	1.039	-0.02	0.128	0.17	0.045	0.0684293
Sunghir6	Hungary_LateAvar	Russia_Shamanka_Eneolithic	-0.024	1.043	-0.02	0.125	0.163	0.04	0.0606513
Sunghir6	Kazakhstan_TianShan_Saka	Finland_Levanluhta_B	0.152	1.354	-0.506	0.18	0.425	0.602	0.139062
Sunghir6	Kazakhstan_TianShan_Saka	Finland_Levanluhta	0.003	0.871	0.125	0.017	0.055	0.052	0.263705
Sunghir6	Kazakhstan_TianShan_Saka	Russia_Afanasiovo	0.045	1.027	-0.072	0.024	0.022	0.034	0.174046
Sunghir6	Kazakhstan_TianShan_Saka	Russia_Andronovo	0.105	1.02	-0.126	0.049	0.02	0.056	0.330238
Sunghir6	Kazakhstan_TianShan_Saka	Russia_BA_Okunevo	0.046	0.916	0.038	0.031	0.05	0.021	0.12949
Sunghir6	Kazakhstan_TianShan_Saka	Russia_Bolshoy	0.031	0.926	0.043	0.021	0.034	0.017	0.24061
Sunghir6	Kazakhstan_TianShan_Saka	Russia_Chalmny_Varre	-0.013	0.922	0.091	0.018	0.035	0.038	0.246393
Sunghir6	Kazakhstan_TianShan_Saka	Russia_IA_2	0.076	0.857	0.066	0.035	0.057	0.025	0.554137
Sunghir6	Kazakhstan_TianShan_Saka	Russia_IA_Ingria	0.263	1.119	-0.382	0.185	0.084	0.263	0.5099
Sunghir6	Kazakhstan_TianShan_Saka	Russia_IA	0.068	0.824	0.108	0.039	0.089	0.053	0.299369
Sunghir6	Kazakhstan_TianShan_Saka	Russia_LBA	0.059	0.794	0.147	0.028	0.081	0.056	0.306229
Sunghir6	Kazakhstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.079	0.89	0.031	0.034	0.044	0.011	0.249609
Sunghir6	Kazakhstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.077	0.895	0.028	0.033	0.041	0.01	0.220921
Sunghir6	Kyrgyzstan_TianShan_Saka	Finland_Levanluhta_B	0.939	Feb-14	-2.078	3.097	5.031	8.122	0.699174
Sunghir6	Kyrgyzstan_TianShan_Saka	Finland_Levanluhta	0.138	0.81	0.052	0.061	0.162	0.185	0.3897
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_Afanasiovo	0.272	0.927	-0.199	0.09	0.069	0.115	0.667762
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_Andronovo	0.398	0.894	-0.292	0.172	0.061	0.186	0.65317
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_BA_Okunevo	0.109	0.941	-0.05	0.071	0.12	0.061	0.441167
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_Bolshoy	0.136	0.894	-0.03	0.058	0.095	0.057	0.406681
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_Chalmny_Varre	0.16	0.879	-0.039	0.071	0.11	0.141	0.391115
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_IA_2	0.197	0.738	0.065	0.085	0.152	0.077	0.432553
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_IA_Ingria	0.714	1.038	-0.752	0.669	0.225	0.878	0.598781
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_IA	0.145	0.86	-0.005	0.081	0.235	0.168	0.37537
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_LBA	0.133	0.946	-0.079	0.075	0.327	0.274	0.375857
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_Lokomotiv_Eneolithic	0.194	0.78	0.026	0.084	0.112	0.034	0.266316
Sunghir6	Kyrgyzstan_TianShan_Saka	Russia_Shamanka_Eneolithic	0.185	0.794	0.021	0.084	0.11	0.031	0.173529

Note. The green color indicates statistically significant results of modeling the genome of Prince Dmitry Alexandrovich (p-value > 0.05).