

Supplementary Table 1. The 47 variants with estimated significantly higher frequency (FDR adj. P -value $< 5.0 \times 10^{-8}$) in Bulgarian centenarians as compared to the control group of young and healthy coethnic individuals

Type	Chr	Ref	Alt	Func	Gene	ExonicFunc	dbSNP	NFE-genome (gnomAD)	Variant allele in centenarian pool	Variant allele in control pool	FDR adj. P -value
snp	6	T	C	intronic	TIAM2		rs1041474	0.39	0.68	0.30	1.42E-11
snp	20	C	G	intronic	SUN5		rs452299	0.40	0.61	0.25	2.91E-08
snp	17	T	C	intronic	CACNA1G		rs11079918	0.38	0.65	0.30	1.22E-15
snp	17	T	G	intronic	CACNA1G		rs12946808	0.49	0.75	0.42	3.11E-17
snp	7	T	C	intronic	TMEM106B		rs11509137	0.40	0.59	0.26	3.32E-12
indel	12		CCA GTGC CGA AACC AGC	exonic	KRT4	nonframeshift insertion	rs71092788	NA	0.87	0.55	4.69E-10

			TCCG								
			AAG								
			CCGC								
			CGG								
sn p	7	G	A	intr onic	TMEM 106B		rs1150 9153	0.40	0.58	0.27	1.43E-11
sn p	19	G	A	intr onic	SARS2		rs1167 0675	0.22	0.49	0.18	7.67E-13
sn p	3	G	A	exo nic	C3orf2 0	nonsynonym ous	rs9821 143	0.36	0.50	0.21	1.97E-08
sn p	14	G	A	intr onic	GSTZ1		rs7313 46	0.57	0.59	0.30	1.28E-08
ind el	7	C		intr onic	TAF6		rs3978 31238	0.52	0.74	0.45	3.98E-08
ind el	17	A		intr onic	YBX2		rs3978 40817	0.74	0.83	0.55	3.16E-10
sn p	3	G	A	exo nic	CCDC 174	synonymous	rs1901	0.36	0.49	0.21	5.00E-08
sn p	17	A	G	intr onic	YBX2		rs5578 1423	0.74	0.82	0.55	1.55E-09
sn p	19	C	T	exo nic	RAB8 A	synonymous	rs1043 308	0.33	0.49	0.22	2.81E-10

sn p	1	T	C	exo nic	AXDN D1	synonymous	rs1079 8674	0.46	0.63	0.37	1.10E-08
sn p	11	G	A	exo nic	DDIAS	nonsynonym ous	rs7130 899	0.50	0.67	0.40	3.91E-08
sn p	19	A	G	exo nic	TTYH 1	synonymous	rs3745 420	0.31	0.49	0.24	2.35E-08
sn p	11	A	G	intr onic	NADS YN1		rs2276 362	0.72	0.72	0.47	2.20E-10
sn p	15	A	G	exo nic	C15orf 40	nonsynonym ous	rs4842 860	0.62	0.80	0.55	3.24E-11
sn p	17	G	A	intr onic	KCNA B3		rs9908 139	0.45	0.56	0.31	5.39E-11
sn p	3	G	A	exo nic	C3orf3 3	synonymous	rs7653 384	0.64	0.81	0.56	3.20E-11
sn p	3	G	C	UT R3	ECE2		rs3914 188	0.71	0.90	0.65	2.42E-08
sn p	11	C	T	exo nic	DHCR 7	synonymous	rs1044 482	0.71	0.77	0.53	1.03E-08
sn p	10	G	T	exo nic	ZFYV E27	nonsynonym ous	rs1088 2993	0.77	0.86	0.63	4.37E-12
sn p	19	A	G	exo nic	LTBP4	unknown	rs1051 303	0.44	0.52	0.29	1.96E-08

sn p	19	T	G	exo nic	IL4I1	synonymous	rs1290 754	0.42	0.58	0.34	3.88E-09
sn p	17	C	T	UT R3	YBX2		rs2228 42	0.75	0.89	0.65	3.04E-08
sn p	9	C	T	exo nic	ASTN2	synonymous	rs3761 845	0.56	0.70	0.47	9.13E-09
sn p	17	G	T	exo nic	RNF43	nonsynonym ous	rs2526 374	0.36	0.55	0.32	4.83E-09
sn p	8	G	A	exo nic	ZNF7	nonsynonym ous	rs1735 169	0.39	0.59	0.36	3.95E-09
sn p	4	A	G	exo nic	PCDH 18	synonymous	rs1001 8837	0.43	0.53	0.30	2.93E-10
sn p	19	T	G	exo nic	ECH1	nonsynonym ous	rs9419	0.56	0.61	0.38	7.59E-09
sn p	2	G	A	intr onic	DDX1		rs1190 0266	0.27	0.39	0.17	2.46E-08
sn p	12	A	C	exo nic	WNK1	nonsynonym ous	rs9568 68	0.84	0.87	0.65	2.15E-10
sn p	1	A	G	exo nic	APCS	synonymous	rs2808 661	0.83	0.88	0.66	7.89E-09
sn p	20	G	A	exo nic	TLDC2	synonymous	rs3748 459	0.27	0.36	0.15	1.50E-08

sn p	12	C	T	intr onic	KRT4		rs2307 027	0.86	0.95	0.73	4.46E-16
sn p	10	G	C	exo nic	PSTK	nonsynonym ous	rs3736 582	0.69	0.81	0.60	4.86E-08
sn p	6	C	G	intr onic	CD83		rs2235 368	0.19	0.38	0.17	3.67E-09
sn p	17	C	T	UT R3	ITGB4		rs9367	0.81	0.89	0.68	6.54E-09
sn p	11	C	T	exo nic	DCDC 1	synonymous	rs2616 815	0.63	0.84	0.66	8.80E-09
sn p	17	G	T	intr onic	DGKE		rs6503 775	0.87	0.95	0.78	8.76E-09
sn p	19	C	T	intr onic	CNN2		rs1040 1325	0.84	0.95	0.78	4.96E-10
sn p	17	T	C	exo nic	POLR2 A	synonymous	rs2228 129	0.76	0.87	0.71	3.39E-08
sn p	16	C	T	exo nic	CTRB2	nonsynonym ous	rs4737	0.83	0.93	0.78	3.15E-08
sn p	1	A	G	intr onic	RNAS EL		rs5332 59	0.94	0.99	0.89	1.73E-09