

FORENSIC SCIENCES

AC I H F D D AC :D

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A compendium of human mitochondrial DNA (mtDNA) control region types has been constructed. This updated compilation indexes over 10,000 population-specific mtDNA nucleotide sequences in a standardized format. The sequences represent mtDNA types from the Scientific Working Group on DNA Analysis Methods (SWGAM) mtDNA database and from the public literature. The SWGDAM data are considered to be of higher quality than the public data, particularly for counting the number of times a particular haplotype has been observed.

K d : s s r ; s s ; DN ; DN (DN)-(13)-1 (s s s r ; s

A survey of sequences from the published literature and the sequence databases GenBank and EMBL was conducted (Table 1). The mtDNA nucleotide sequence data contributed to the authors for inclusion in the original concordance and contributions to SWGDAM are also included. All sequence information is included in the compilation.

The SWGDAM data contain sequences for nucleotide positions (np) for both HV1 (np 16024-16365) and HV2 (np 73-340) for each individual. Sequence data are described as those sites that are different from the Cambridge Reference Sequence (CRS) (82).

All sequences are compiled by continent and country of origin and numbered according to a standard 14 character ("XXX.XXX.XXXXX") format (Table 2). In this format, the first three characters identify the continent/country of origin. All country codes are the official country code designations published by the United Nations (86) and are text characters. For example, DEU defines Germany, and ESP defines Spain. Three zeros ("000") are used in this field to identify sequences that cannot be attributed to a particular country.

The next three characters identify the population (Table 3). These characters can be either text or numeric. Text identifies major population groups generally used by law enforcement agen-

from individuals residing in territories that are governed by other countries, the first three characters identify the country in political control and the next three identify the people living in the territory. For example, the Polynesian people of New Britain in Melanesia are identified by "area code" 315. However, the island belongs politically to the United Kingdom. Therefore, the first sequence in a series from this group is identified "GBR.315.000001".

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A total of 10,828 mtDNA sequences were obtained: 4,142 from SWGDAM and 6,686 from the published literature/EMBL and GenBank (Table 1). Other tabular information includes provenance, number of populations, number of mtDNA types per population, sequence range, and contributing author.

Miller et al (6) previously reported that when compiling data from a number of sources inconsistencies may arise. During data collection, a few substitutions in some published and SWGDAM sequences were clearly reviewed to be anomalous. When problems were suspected, authors were contacted and asked to confirm their nucleotide sequence. Usually, minor sequence errors were corrected with the author's assistance. However, there are instances with the public literature data where an author has not yet responded to our requests or has asked that an incorrectly reported substitution not be corrected until the laboratory could publish an erratum. Those requests have been honored. However, the following disclaimer has been added to the published data: "This compendium of human mtDNA control region types is compiled from nucleotide sequence data available in the public domain. Every attempt has been made by the editors to ensure the accuracy of the data provided herein. However, some inaccuracies and inconsistencies may exist in the literature. It is possible that some errors still remain. The authors do not acFot possible

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Region/ country	Population	Identification code	No.	Nucleotide positions used	Ref.	Region/ country	Population	Identification code	No.	Nucleotide positions used	Ref.
Africa						Zambia	ND	ZMB.AFR	1	16048-16569; 15 1-41	
Algeria	Ghardaia	DZA.AFR	78	16090-16370	10	Zimbabwe	ND	ZWE.AFR	1	16048-16569; 15 1-41	
Benin	ND ^a	BEN.AFR	13	16190-16370	11	America, North					
Botswana	Herero	BWA.337	20	16204-16381; 63-374	12	Belize	Carib	BLZ.345	28	16067-16344	24
Central African Republic	Mbuti Pygmy	CAF.320	5	71-270	13	Canada	Bella Coola	CAN.030	22	16024-16383	25
Central African Republic	ND	CAF.320	19	16024-16381; 63-374	14	Canada	Bella Coola	CAN.030	4	16030-16370	26
Central African Republic	ND	CAF.AFR	10	16028-16569; 1-41	15	Canada	Haida	CAN.080	18	16024-16383	25
Democratic Republic of Congo	ND	COD.AFR	1	16028-16569; 1-41	15	Canada	ND	1602			
Eastern Senegal	Niokolo Madenka	SEN.327	119	16024-16368; 64-375	16						
Egypt	Ancient people	EGY.ANC	1	16210-16254	17						
Egypt	ND	EGY.AFR	24	16024-16365; 73-340	*b						
Guinea, Equatorial	Bubi	GNQ.325	50	16024-16383	18						
Guinea, Sub-Saharan	ND	GIN.334	11	15997-16339	19						
Ivory Coast	ND	IVC.AFR	1	16086-16519	15						
Kenya	ND	KEN.AFR	1	16086-16519	15						
Malawi	ND	MWI.AFR	7	16082-16353; 64-324	20						
Morocco	Rif Mountains	MAR.332	18	15997-16399	19						
Namibia	Kung!	NAM.336	25	16024-16381; 63-374	12						
Niger	Ancient peoples	NER.ANC	2	16037-16420	21						
Niger	Bantu-speaking	NER.318	24	16082-16353; 64-324	20						
Nigeria	ND	NGA.AFR	1	16086-16519	15						
Nigeria	ND	NGA.AFR	7	16024-16389	22						
Nigeria	Yoruban	NGA.007	14	16024-16381; 63-374	12						
ND	Mbanderu	BWA.342	7	16024-16381; 63-374	14						
ND	Naron	BWA.341	1	16024-16381; 63-374	14						
ND	ND	000.AFR	3	16086-16519	15						
Sierra Leone	ND	SKE.AFR	110	16024-16365; 73-340	*b						
South Africa	Biaka	ZAF.314	18	16024-16381; 63-374	23						
South Africa	Biaka	ZAF.314	5	71-270	13						
South Africa	Nguni	ZAF.310	14	71-270	13						
South Africa	ND	ZAF.CAU	1	16048-16569; 1-41	15						
South Africa	San	ZAF.311	14	71-270	13						
South Africa	Sotho-Tswana	ZAF.312	22	71-270	13						
South Africa	Tsonga	ZAF.313	14	71-270	13						
Tanzania	Hazda	TZA.343	17	16024-16381; 63-374	12						
Uganda	ND	UGA.AFR	1	16048-16569; 1-41	15						

Region/ country	Population	Identification code	No.	Nucleotide positions used	Ref.	Region/ country	Population	Identification code	No.	Nucleotide positions used	Ref.
Brazil	Krahoa	BRA.304	3	16030-16370	26	Korea, South	ND	KOR.ASN	64	16086-16519	46
Brazil	Surucucu, Catrimani	BRA.299	50	16003-16393; 30-396	42	Krygyzstan	Kirghiz	KGZ.ASN	96	16024-16383	51
Brazil	Ticuna	BRA.344	3	16030-16370	26	Laos	Himong	LAO.ASN	1	16190-16370	11
Brazil	Yanomama	BRA.299	3	16030-16370	26	Malaysia	ND	MYS.ASN	1	16217-16261	11
Columbia	Ancient People	COL.ANC	6	16049-16401	43	Malaysia	ND	MYS.ASN	6	71-270	13
Tristan da Cunha	Indigenous	GBR.340	5	15996-16401; 29-408	44	Malaysia Sabah	MYS.ASN	36	16064-16375	45	
Venezuela	ND	VEN.338	1	16030-16370	26	Mongolia	ND	MNG.ASN	83	16020-16400	53
Asia						ND	ND	000.ASN	13	71-270	13
Cambodia	ND	KHM.ASN	12	71-270	13	ND	ND	000.ASN	14	16024-16381; 63-374	12
China	Hong Kong	CHN.ASN	20	16024-16400	31	ND	ND	000.ASN	23	16024-16389;	
China	ND	CHN.ASN	2	16024-16381; 63-374	14	Indonesia	000.A56-3723				
China	ND	CHN.ASN	4	16086-16519	15	Malaysia	Sabah				
China	ND	CHN.ASN	1	16190-16370	11						
China	ND	CHN.ASN	16	71-270	13						
China	Taiwan	CHN.ASN	34	16064/16189- 16375	45						
China	Taiwan	CHN.ASN	6	16030-16370	26						
China	Taiwan	CHN.ASN	1	16024-16381	14						
China	Taiwan	CHN.ASN	65	16048-16569; 1-41	46						
China	Taiwan	CHN.ASN	28	16024-16390	47						
China	Siberia	CHN.306	1	16030-16370	26						
India	Karnataka, Kerala: Havik	IND.CAU	48	15997-16401; 29-408	48						
India	Kumtata- luka: Murki	IND.CAU	50	15997-16401; 29-408	48						
India	ND	IND.CAU	1	16086-16519	15						
Indonesia	Moluccas and Nusa Tenggara Islands	IDN.ASN	27	16024-16395	49						
Indonesia	ND	IDN.ASN	1	16086-16519	15						
Indonesia	ND	IDN.ASN	1	16024-16381	23						
Indonesia	ND	IDN.ASN	7	16190-16370	11						
Japan	Chiose	JPN.ASN	1	16190-16379	15						
Japan	Kano	JPN.ASN	3	16190-16379	15						
Japan	ND	JPN.ASN	163	16024-16365; 73-340	*b						
Japan	ND	JPN.ASN	1	16024-16381; 63-374	23						
Japan	ND	JPN.ASN	100	16024-16399; 56-373	50						
Japan	ND	JPN.ASN	62	16048-16569; 1-41	15						
Japan	ND	JPN.ASN	1	16190-16370	11						
Japan	ND	JPN.ASN	19	71-270	13						
Japan	Ryukyu/ Okinawa	JPN.ASN	50	16190-16379	15						
Japan	Suttu	JPN.ASN	2	16190-16379	15						
Japan	Taka	JPN.ASN	3	16190-16379	15						
Japan	Toda	JPN.ASN	1	16190-16379	15						
Japan	Urawa	JPN.ASN	1	16190-16379	15						
Kazakhstan	Kazakh	KAZ.ASN	55	16024-16383	51						
Kazakhstan	Uighurs	KAZ.ASN	54	16024-16383	51						
Korea	ND	KOR.ASN	182	16024-16365; 73-340	*b						
Korea	ND	KOR.ASN	4	16030-16370	52						
Korea	ND	KOR.ASN	3	16086-16519	15						
Korea	ND	KOR.ASN	2	71-270	13						

Table 1. Continued...

Region/ country	Population	Identification code	No.	Nucleotide positions used	Ref.	Region/ country	Population	Identification code	No.	Nucleotide positions used	Ref.	
Germany	Caucasian	DEU.CAU	107	16090-16365	60	Turkey	Western Region	TUR.CAU	22	16090-16365	60	
Germany	Neanderthal	DEU.NED	1	16023-16400	66	UK	Cambridge Reference Sequence	GBR.CRS	1	All	82	
Greece	ND	GRC.CAU	1	16024-16409	67	UK	Caucasian	GBR.CAU	5	16086-16519	15	
Iceland	Caucasian	ISL.CAU	39	16024-16383	61	UK	Caucasian	GBR.CAU	100	16024-16400; 83, 30-394	83,	
Iceland	Caucasian	ISL.CAU	14	16069-16365	60	UK	Cornwall	GBR.CAU	20	16024-16324; 59 63-322	59	
Iceland	Caucasian	ISL.CAU	21	16024-16324; 63-322	59	UK	Cornwall	GBR.CAU	50	16069-16365	60	
Italy	Caucasian	ITA.CAU	21	106-357	68	UK	Glasgow	GBR.CAU	3	16020-16478; 84 84-327	84	
Italy	Sardinia	ITA.CAU	46	16024-16409	67	UK	Hebrides	GBR.CAU	19	16024-16324; 59 63-322	59	
Italy	South Tyrol and Trentino	ITA.CAU	62	16024-16383	69	UK	Northern Ireland	GBR.CAU	37	16024-16324; 59 63-322	59	
Italy	Tuscany	ITA.CAU	47	16051-16362; 57-319	70	UK	Northumber land	GBR.CAU	19	16024-16324; 59 63-322	59	
Netherlands	Caucasian	NLD.CAU	1	16048-16569; 1-41	15	UK	Orkney Islands	GBR.CAU	89	16024-16324; 59 63-322	59	
Norway	Caucasian	NOR.CAU	30	16024-16324; 63-322	71	UK	Wales	GBR.CAU	92	16090-16365	60	
Norway	Saami	NOR.CAU	197	15997-16401	71	Oceania	Cook Islands	ND	COK.317	79	16189-16375	45
ND	Caucasian	000.CAU	107		13 ^c	Marques	Polynesian	FRA.317	19	16189-16375	45	
ND	Saami	000.CAU	100	15997-16401	61	Marshall Islands	ND	MHL.317	5	16189-16375	45	
Portugal	Caucasian	PRT.CAU	40	16090-16370	10	Melanesia	New Britain	GBR.315	2	16192-16420	34	
Portugal	Caucasian	PRT.CAU	30	16090-16365	60	Micronesia	Kapingamar angi	FSM.316	16	16189-16375	45	
Russia	Evenk and Tungus	RUS.307	11	16030-16370	26	Micronesia	Kosrae (Caroline Islands)	FSM.316	1	16192-16420	34	
Russia	Itel'men	RUS.321	46	16000-16525	73	ND	Polynesian	FRA.317	3	16189-16375	45	
Russia	Karelian	RUS.CAU	83	16024-16383	61	ND	Yap	FSM.316	1	16192-16420	34	
Russia	Koryk	RUS.324	147	16000-16525	73	Papua New Guinea	Highland	PNG.339	3	16190-16370	11	
Russia	Nivkh	RUS.308	2	16030-16370	26	Papua New Guinea	ND	PNG.339	19	16024-16381; 23 63-374	23	
Russia	Romanov	RUS.CAU	11	16020-16400; 48-408	74	Papua New Guinea	ND	PNG.339	23	16024-16595	49	
Russia	Udegey	RUS.309	3	16030-16370	26	Papua New Guinea	ND	PNG.339	1	16086-16519	15	
Russia	Volga	RUS.CAU	34	16024-16383	61	Papua New Guinea	ND	PNG.339	9	16164/16189- 16375	45	
Saudi Arabia, Israel, and Yemin	Bedouins, Arabs, and Jews	000.MLE	39	16024-16409	67	Samoa, American	ND	WSM.317	24	16024-16395; 49 41-401	49	
Spain	Andalusia	ESP.CAU	15	16090-16370	10	Samoa, American	ND	WSM.317	17	16190-16370	11	
Spain	Basques	ESP.CAU	45	16024-16383	75	Samoa, American	Savai'i land Upola	WSM.317	24	16064-16375	45	
Spain	Basques	ESP.CAU	42	16090-16370	10	Sao Tome Society Islands	Bioko Island	STPAFR	95	16024-16383	18	
Spain	Basques	ESP.CAU	55	16069-16365	60	Society Islands	Polynesian	FRA.317	1	16192-16420	34	
Spain	Canary Islands- Tenerife	ESP.322	54	15997-16399	19	Tahiti	Polynesian	FRA.317	4	16189-16375	45	
Spain	Catalonia	ESP.CAU	15	16090-16370	10	Tonga	Polynesian	TGO.317	6	16064-16375	45	
Spain	Caucasian	ESP.CAU	30	16090-16365	60	Tonga	Polynesian	TGO.317	1	16024-16381; 23 63-374	23	
Spain	Caucasian	ESP.CAU	78	16024-16569; 1-576	76, * ^b	Tonga	Polynesian	TGO.317	1	16024-16381; 23 63-374	23	
Spain	Caucasian	ESP.CAU	11	16090-16370	10	Tonga	Polynesian	TGO.317	2	16190-16370	11	
Spain	Caucasian	ESP.CAU	18	15997-16399	19	Vanuatau	Nguna	VUT.315	41	16041-16400	34	
Spain	Galacia	ESP.CAU	92	16024-16383	77	Vanuatau	ND	VUT.315	1	16041-16400	85	
Spain	Northern Region	ESP.CAU	30	16090-16370	10	Vanuatau	ND	VUT.315	51	16064-16375	45	
Spain	Zaragoza	ESP.CAU	103	16024-16391; 60-380	78, * ^b							
Switzerland	Caucasian	CHE.CAU	154	16020-16400; 40-400	79							
Switzerland	Caucasian	CHE.CAU	74	16024-16383	80							
Switzerland	Caucasian	CHE.CAU	1	16086-16519	15							
Turkey	ND	TUR.CAU	29	16097-16400; 30-400	58							
Turkey	ND	TUR.CAU	45	16024-16401	81							

^aND – Not defined.

^bSWGDM – Scientific Working Group for DNA Analysis Methods.

^cReferences 13,14,15,22,48,72.

Country	Code	Adjective
Afghanistan (the Islamic State of)	AFG	Afghan
Albania (the Republic of)	ALB	Albanian
Algeria (the People's Democratic Republic of)	DZA	Algerian
Andorra (the Principality of)	AND	Andorran
Angola (the Republic of)	AGO	Angolan
Antigua and Barbuda	ATG	Antigua and Barbuda (of)
Argentina (the Argentine Republic)	ARG	Argentine
Armenia (the Republic of)	ARM	Armenian
Australia	AUS	Australian
Austria (the Republic of)	AUT	Austrian
Azerbaijan (the Azerbaijani Republic)	AZE	Azerbaijani
Bahamas (the Commonwealth of the)	BHS	Bahamian
Bahrain (the State of)	BHR	Bahraini
Bangladesh (the People's Republic of)	BGD	Bangladesh (of) / a Bangladeshi
Barbados	BRB	Barbadian
Belarus (the Republic of)	BLR	Belarusian
Belgium (the Kingdom of)	BEL	Belgian
Belize	BLZ	Belizean
Benin (the Republic of)	BEN	Beninese
Bhutan (the Kingdom of)	BTN	Bhutanese
Bolivia (the Republic of)	BOL	Bolivian
Bosnia and Herzegovina	BIH	Bosnia and Herzegovina (of)
Botswana (the Republic of)	BWA	Botswana (of)
Brazil (the Federative Republic of)	BRA	Brazilian
Brunei Darussalam	BRN	Brunei Darussalam (of)
BuldrGia (the Republic of)	GDR-1125.8	(BolldrGia)

Country	Code	Adjective
Libyan Arab Jamahiriya (the Socialist People's)	LBY	Libyan
Liechtenstein (the Principality of)	LIE	Liechtenstein (of)
Lithuania (the Republic of)	LTU	Lithuanian
Luxembourg (the Grand Duchy of)	LUX	Luxembourg (of)
Macedonia (the former Yugoslav Republic of)	MKD	Macedonia (of the former Yugoslav Republic of)
Madagascar (the Republic of)	MDG	Malagasy
Malawi (the Republic of)	MWI	Malawian
Malaysia	MYS	Malaysian
Maldives (the Republic of)	MDV	Maldivian
Mali (the Republic of)	MLI	Malian
Malta (the Republic of)	MLT	Maltese
Marshall Islands (the Republic of the)	MHL	Marshall Islands (of the), Marshallese
Mauritania (the Islamic Republic of)	MRT	Mauritanian
Mauritius (the Republic of)	MUS	Mauritian
Mozambique (the Republic of)	MOZ	Mozambican
Mexico: also known as the United Mexican States	MEX	Mexican
Micronesia (the Federated States of)	FSM	Micronesia (of the Federated States of)
Monaco (the Principality of)	MCO	Monegasque
Mongolia	MNG	Mongolian
Morocco (the Kingdom of)	MAR	Moroccan
Myanmar (the Union of)	MMR	Myanmar
Namibia (the Republic of)	NAM	Namibian
Nauri (the Republic of)	NRU	Nauruan
Nepal (the Kingdom of)	NPL	Nepalese
Netherlands (the Kingdom of the)	NLD	Netherlands; a

Tribe	Code	Region	Country	Tribe	Code	Region	Country
Aborigine	0.294	ND ^a	Australia	Chumash	0.048	California	USA
Aborigine	0.326	Waripiri and Paalintji/Nglyambaa	Australia	Clatsop	0.049	Pacific Northwest	USA
Achumawi	0.001	California	USA	Coahuiltec	0.050	Southwest	USA
African origin	AFR	ND		Coast Salish	0.051	Pacific Northwest	USA
AfroCaribbean	AFC	ND		Cochimi	0.052	California	USA
Ahtena	0.002	Subarctic	USA	Cocopa	0.053	Southwest	USA
Algonkin	0.003	Subarctic	USA	Coeur d'Alene	0.054	Plateau	USA
Alsea	0.004	Pacific Northwest	USA	Columbia	0.055	Plateau	USA
Alutiq	0.005	Arctic	USA	Colville	0.056	Plateau	USA
Amazon region: undefined	0.300	Amazon Region	Brazil	Comanche	0.057	Great Plains	USA
Amazon region: Yanomami	0.299	Roraima	Brazil	Comox	0.058	Pacific Northwest	USA
Anasazi	0.006	Southwest	USA	Concho	0.059	Southwest	USA
Ancient	ANC	Ancient people	ND	Coos	0.060	Pacific Northwest	USA
Apache, Aravaipa	0.009	Southwest	USA	Coquille	0.061	Pacific Northwest	USA
Apache, Chiricahua	0.010	Southwest	USA	Costanoan	0.062	California	USA
Apache, Jicarilla	0.011	Southwest	USA	Cowichan	0.063	Pacific Northwest	USA
Apache, Kiowa	0.012	Great Plains	USA	Cowlitz	0.064	Pacific Northwest	USA
Apache, Lipan	0.013	Southwest	USA	Cree	0.065	Subarctic	USA
Apache, Mescalero	0.014	Southwest	USA	Crow	0.066	Great Plains	USA
Apache, Mimbreno	0.015	Southwest	USA	Cupeno	0.067	California	USA
Apache, ND	0.008	North America	USA	Dakota	0.068	Great Plains	USA
Apache, San Carlos	0.016	Southwest	USA	Dogrib	0.069	Subarctic	USA
Apache, Tonto	0.017	Southwest	USA	Duwamish	0.070	Pacific Northwest	USA
Apache, White Mountain	0.018	Southwest	USA	Embera	0.329	Eastern Region	Panama
Apache, Yavapai	0.019	Southwest	USA	Esselen	0.071	California	USA
Arapaho	0.020	Great Plains	USA	Evenk/Tungus	0.307	Siberia	Russia
Arikara	0.021	Great Plains	USA	Eyak	0.072	Subarctic	USA
Asian origin	ASN	ND		Fang	0.334	Sub-Saharan	Guinea
Assiniboin	0.022	Great Plains	USA	Flathead	0.073	Plateau	USA
Athabaskan	0.023	Subarctic	USA	Gabrielino	0.074	California	USA
Atsugewi	0.024	California	USA	Gitksan	0.075	Pacific Northwest	USA
Aztec	0.025	Middle America	USA	Goshute	0.076	Great Basin	USA
Bannock	0.026	Great Basin	USA	Gros Ventre	0.077	Great Plains	USA
Bantu-Speaking	0.318	South Eastern Africa	ND	Guachichil	0.078	Southwest	USA
Bear River Indians	0.027	California	USA	Guacicura	0.079	California	USA
Beaver	0.028	Subarctic	USA	Guam	0.335	Mariana Islands (South)/Guamanian	USA
Bella Bella	0.029	Pacific Northwest	USA	Guayami/Ngobe	0.301	Western Region	Panama
Bella Coola	0.030	Pacific Northwest	USA	Haida	0.080	Pacific Northwest	USA/Canada
Beothuk	0.031	Subarctic	USA	Haisla	0.081	Pacific Northwest	USA
Berber	0.332	Northern Morocco: Rif Mountains	Morocco	Halchidhoma	0.082	Southwest	USA
Biaka	0.314	ND	South Africa	Halyikwamai	0.083	Southwest	USA
Blackfoot	0.032	Great Plains	USA	Han	0.084	Subarctic	USA
Blood	0.033	Great Plains	USA	Hare	0.085	Subarctic	USA
Boruca	0.302	Western Region	Panama	Havasupai	0.086	Southwest	USA
Bubi	0.325	Bioko Island	Equatorial Guinea	Hawaiian	0.087	Pacific Islands	USA
Cahto	0.034	California	USA	Hazda	0.343	Africa	The United Republic of Tanzania
Cahuilla	0.035	California	USA	Herero!	0.337	South Western Africa	Botswana
Cambridge Reference Sequence	CRS			Hidatsa	0.088	Great Plains	USA
Canary Islander	0.322	West Coast North Africa	Spain	Hispanic origin	HIS	ND	
Caribs	CAR	ND	Caribbean Area	Hoh	0.089	Pacific Northwest	USA
Carrier	0.036	Subarctic	USA	Hohokhomaec			
Caucasian	CAU	ND					
Cayuse	0.037	Plateau	USA				
Chastacosta	0.038	Pacific Northwest	USA				
Chehalis	0.039	Pacific Northwest	USA				
Chelan	0.040	Plateau	USA				
Chemehuevi	0.041	Great Basin	USA				
Cheyenne	0.042	Great Plains	USA				
Chilcotin	0.043	Subarctic	USA				
Chilula	0.044	California	USA				
Chimariko	0.045	California	USA				
Chinook	0.046	Pacific Northwest	USA				
Chipewyan	0.047	Subarctic	USA				

Tribe	Code	Region	Country
Kansa	0.105	Great Plains	USA
Karankawa	0.106	Southwest	USA
Karok	0.107	California	USA
Kaska	0.108	Subarctic	USA
Kawaiisu	0.109	Great Basin	USA
Kichai	0.110	Great Plains	USA
Kiliwa	0.111	California	USA
Kiowa	0.112	Great Plains	USA
Kitanemuk	0.113	California	USA
Klallam	0.114	Pacific Northwest	USA
Klamath	0.115	Plateau	USA
Klickitat	0.116	Plateau	USA
Kohuana	0.117	Southwest	USA
Kootenai	0.118	Plateau	USA
Koryak	0.324	Kamchatka Peninsula	Russia
Koyukon	0.119	Subarctic	USA
Kraho	0.304	ND	Brazil
Kuitsh	0.120	Pacific Northwest	USA
Kumeyaay	0.121	California	USA
Kuna	0.298	South Eastern Coastline	Panama
Kung	0.336	South Western Africa	Namibia
Kutchin	0.122	Subarctic	USA
Kwakiutl	0.123	Pacific Northwest	USA
Kwalhioqua	0.124	Pacific Northwest	USA
Lake	0.125	Plateau	USA

Tribe	Code	Region	Country
Salish	0.207	Pacific Northwest	USA
Samish	0.208	Pacific Northwest	USA
San	0.311	ND	South Africa
Sanpoil	0.209	Plateau	USA
Sarsi	0.210	Great Plains	USA
Sauk-Suiattle	0.211	Pacific Northwest	USA
Sechelt	0.212	Pacific Northwest	USA
Sekani	0.213	Subarctic	USA
Seri	0.214	Southwest	USA
Serrano	0.215	California	USA
Shasta	0.216	California	USA
Shoalwater	0.217	Pacific Northwest	USA
Shoshone	0.218	Great Basin	USA
Shuswap	0.219	Plateau	USA
Siletz	0.220	Pacific Northwest	USA
Sinkyone	0.221	California	USA
Siuslaw	0.222	Pacific Northwest	USA
Skagit	0.223	Pacific Northwest	USA
Skokomish	0.224	Pacific Northwest	USA
Slavey	0.225	Subarctic	USA
Snohomish	0.226	Pacific Northwest	USA
Snoqualmie	0.227	Pacific Northwest	USA
Sobaipuri	0.228	Southwest	USA
Songhees	0.229	Pacific Northwest	USA
Sotho-Tswana	0.312	ND	South Africa
Spokan	0.230	Plateau	USA
Squamish	0.231	Pacific Northwest	USA
Squaxin Island	0.232	Pacific Northwest	USA
Steilacoom	0.233	Pacific Northwest	USA
Stillaguamish	0.234	Pacific Northwest	USA
Suma	0.235	Southwest	USA
Suquamish	0.236	Pacific Northwest	USA
Swinomish	0.237	Pacific Northwest	USA
Tagish	0.238	Subarctic	USA
Tahltan	0.239	Subarctic	USA
Takelma	0.240	Pacific Northwest	USA
Tanaina	0.241	Subarctic	USA
Tano	0.242	Southwest	USA
Tarahumara	0.243	Southwest	USA/Mexico
Tataviam	0.244	California	USA
Tawakoni	0.245	Great Plains	USA
Tenana	0.246	Subarctic	USA
Tenino	0.247	Plateau	USA
Tepehuan	0.248	Southwest	USA
Thompson	0.249	Plateau	USA
Tibetan	0.306	Tibet	China
Tillamook	0.250	Pacific Northwest	USA
Tiwa	0.251	Southwest	USA
Tlingit	0.252	Pacific Northwest	USA
Tohono O'odham	0.253	Southwest	USA

Tribe	Code	Region	Country
Tolowa	0.254	California	USA
Toltec	0.255	Middle America	USA
Tristan da Cunha	0.340	Southern Atlantic Ocean	Great Britain
Tsetsaut	0.256	Subarctic	USA
Tsimshian	0.257	Pacific Northwest	USA
Tsonga	0.313	ND	South Africa
Tubatulabal	0.258	California	USA
Tutchone	0.259	Subarctic	USA
Tututni	0.260	Pacific Northwest	USA
Twana	0.261	Pacific Northwest	USA
Umatilla04G-5.1(-)90.dJTUS			
Stillaguami112.8(simshian0.2olreek7r)135UpperionCalif65acific Northwest			USA
Umatilla04G-5.1(-46)g			A7.6(A)9.8.T*(T)135.3(ututni)-Unknown1703.7
TenanaP		USA	
TutchoneP		USA	
Tutchoneacific Northwest		USA	
StillaguamihoneP			
Tenana7.246.25e-17003.Soum*{Sn}37US			
Tutchoneacific			
Tenanaalif95(Soum*W).251Oceanch.io7rGreat Brita(Suma)-6358.-TD(T)112.8(setsa			
Tutc112.8(simshianW).251			USA
Tibetan		USA	
Tutcho5eT1703.28.7Cali330nia			
Umatilla04G-5.1(Y(oni)-4el54)knife1703.6(P)75.8tic			USA
TY(o.1(0.o63..7(0.24)-s170397(T*75.87nia)-5034(US)37.6(A)JT*(T)135.3(utchone)			
Umatilla04G-5.1(-46)gA			

ture contributions a standardized format should be developed that is consistent with the structure in the Compendium. Finally, the original concordance search format has been replaced by the FBI-developed searching program "MitoSearch," and searching algorithms are included in Combined DNA Index System to support the Missing Persons and Forensic Indices. The database will be made available via

(<http://www.fbi.gov/hq/lab/forensics/forensics.htm>). The data contained in this Compendium cannot represent all data currently available; mtDNA population data are being developed and disseminated continuously. In fact, by the time this Compendium is published, the web-based data will be augmented compared with the data included in this Compendium. Furthermore, in an attempt to remain current and correct, we invite submissions of new sequence data for inclusion in future editions and welcome comments from users. We also especially welcome corrections in the public literature

- 25 Ward RH, Redd A, Valencia D, Fraizer B, Pääbo S. Genetic and linguistic differentiation in the Americas. *Proc Natl Acad Sci U S A* 1993;90:10663-7.
- 26 Torroni A, Sukernik RI, Schurr TG, Starikovskaya YB, Cabell MF, Crawford MH, et al. mtDNA variation of Aboriginal Siberians reveals distinct genetic affinities with

