

Supplementary Figure 1. Pictures of the examined Kazakh Tobet dogs.



**Supplementary Table 1.** Haplotypes of analysed dog breeds.

SRA ID	Breed	Mutation in HV1 region	Haplotype
SRR20326621	Akbash	C15814T,T16025C	A20
SRR20326622	Akbash	T15639A,C15814T,T16025C	A11
ERR3486148	Akita	A15627G,T15636C,T15639A,G15652A,T15665C,C15814T,C15841T	A39
SRR12330336	Akita	A15627G,T15636C,T15639A,G15652A,T15665C,C15814T,C15841T	A39
SRR12330203	Australian_Shepherd	C15483T,A15627G,T15639A,C15814T,C15912T,A15931-	NA
SRR13339207	Australian_Shepherd	T15639A,C15814T,T16025C	A11
SRR12330056	Bernese_Mountain_Dog	C15483T,A15627G,T15639A,C15814T	A2
SRR12330057	Bernese_Mountain_Dog	A15627G,C15632T,T15639A,C15814T,T16025C	A22
SRR12330060	Briard	C15526T,C15595T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,C15955T,A16003G	B1
SRR12330061	Briard	C15526T,C15595T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,C15955T,A16003G	B1
ERR2196024	Bullmastiff	T15620C,A15627G,T15639A,C15814T,C15955T	A17
SRR12330047	Bullmastiff	T15620C,A15627G,T15639A,C15814T,C15955T	A17
SRR5381785	Central_Asian_Shepherd	T15639A,C15814T,T16025C	A11
ERR11423077	English_Shepherd	C15526T,C15595T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,A15931-,C15955T,A16003G	B3
ERR11423083	English_Shepherd	C15526T,C15595T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,C15955T,A16003G	B1
SRR24105845	French_Mastiff	T15620C,A15627G,T15639A,C15814T,C15955T	A17
SRR15734720	German_Shepherd	- 15461C,C15526T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,C15955T,A16003G	NA
SRR11671228	Great_Dane	C15483T,A15627G,T15639A,C15814T	A2
SRR15734834	Great_Pyrenees	C15526T,C15595T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,C15955T,A16003G	B1
SRR15734836	Great_Pyrenees	C15526T,C15595T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,C15955T,A16003G	B1
SRR17176028	Kuvasz	T15665C,C15814T,A15931-,T16025C	A178
SRR19638337	Kuvasz	C15526T,C15595T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,A15931-,C15955T,A16003G	B3
SRR15734714	Leonberger	C15483T,A15627G,T15639A,C15814T	A2
SRR16048833	Leonberger	C15483T,A15627G,T15639A,C15814T	A2

SRR14750474	Newfoundland	T15620C,A15627G,T15639A,C15814T	A16
SRR12330234	Old_English_Sheepdog	T15639C,C15814T	A165
SRR12330235	Old_English_Sheepdog	T15620C,T15625C,A15627G,T15639A,C15814T,C15955T	NA
SRR2095501	Rottweiler	T15639A,C15814T,T16025C	A11
SRR7120204	Rottweiler	T15639A,C15814T,A15931-,T16025C	A13
SRR12330206	Samoyed	C15483T,A15627G,T15639A,C15814T,C15912T	A1
SRR12330207	Samoyed	T15620C,A15627G,T15639A,C15814T	A16
SRR2095539	Siberian_Husky	T15639A,C15814T,T16025C	A11
SRR16048561	Slovak_Cuvac	T15620C,A15627G,T15639A,C15814T,C15955T	A17
SRR12330159	St._Bernard	A15627G,C15632T,T15639A,C15814T,T16025C	A22
SRR12330160	St._Bernard	A15627G,C15632T,T15639A,C15814T,T16025C	A22
SRR12330161	Staffordshire_Bull_Terrier	T15639A,C15814T,T16025C	A11
SRR12330162	Staffordshire_Bull_Terrier	T15620C,A15627G,T15639A,C15814T,C15955T	A17
SRR15734780	Standard_Schnauzer	C15508T,C15526T,T15611C,T15639G,T15650C,C15710T,T15800C,C15814T,C15912T,G15932-,C15955T,A16003G	NA
SRR7107964	Standard_Schnauzer	C15526T,A15553G,C15595T,T15612C,C15632T,T15639G,A15643G,G15652A,T15800C,C15814T,T15815C,C15912T,C15955T,A16003G	B12
SRR16998414	Tibetan_Mastiff	T15625C,A15627G,C15632T,T15639A,G15652A,T15665C,A15667G,C15814T	A53
SRR18766061	Tibetan_Mastiff	T15522-,T15523-,T15625C,A15627G,C15632T,T15639A,G15652A,T15665C,C15814T	NA
TB1	Kazakh Tobet	C15814T	A18
TB63	Kazakh Tobet	C15814T	A18

**Supplementary Table 2.** SRA sequencing ID ans FCI classification.

SRA sequencing run ID	Breed	FCI Group
SRR20326621	Akbash	not officially recognised
SRR20326622	Akbash	not officially recognised
ERR3486148	Akita	Group 5: Spitz and Primitive Types
SRR12330336	Akita	Group 5: Spitz and Primitive Types
SRR12330203	Australian_Shepherd	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR13339207	Australian_Shepherd	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR12330056	Bernese_Mountain_Dog	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR12330057	Bernese_Mountain_Dog	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR12330060	Briard	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR12330061	Briard	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
ERR2196024	Bullmastiff	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR12330047	Bullmastiff	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR16048875	Central_Asian_Shepherd	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR5381785	Central_Asian_Shepherd	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
ERR11423077	English_Shepherd	not officially recognised
ERR11423083	English_Shepherd	not officially recognised
SRR24105845	French_Mastiff	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR15734657	German_Shepherd	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR15734720	German_Shepherd	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR11671228	Great_Dane	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR15734834	Great_Pyrenees	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR15734836	Great_Pyrenees	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.
SRR17176028	Kuvasz	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR19638337	Kuvasz	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR15734714	Leonberger	Group 2: Pinschers and Schnauzers, Molosoid and Swiss Mountain Dog
SRR16048833	Leonberger	Group 2: Pinscher and Schnauzer Molosoid breeds - Swiss Mountain and Cattle Dogs.

SRR14750474	Newfoundland	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.
SRR12330234	Old_English_Sheepdog	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR12330235	Old_English_Sheepdog	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR2095501	Rottweiler	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.
SRR7120204	Rottweiler	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.
SRR12330206	Samoyed	Group 5: Spitz and Primitive Types
SRR12330207	Samoyed	Group 5: Spitz and Primitive Types
SRR2095539	Siberian_Husky	Group 5: Spitz and Primitive Types
SRR16048561	Slovak_Cuvac	Group 1: Sheepdogs and Cattle Dogs (except Swiss Cattle Dogs).
SRR12330159	St._Bernard	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.
SRR12330160	St._Bernard	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.
SRR12330161	Staffordshire_Bull_Terrier	Group 3: Terriers
SRR12330162	Staffordshire_Bull_Terrier	Group 3: Terriers
SRR15734780	Standard_Schnauzer	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.
SRR7107964	Standard_Schnauzer	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.
SRR16998414	Tibetan_Mastiff	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.
SRR18766061	Tibetan_Mastiff	Group 2: Pinscher and Schnauzer Molossoid breeds - Swiss Mountain and Cattle Dogs.