

Table S1. Primer sequences, characteristics, and annealing temperatures of the 32 microsatellite loci tested here. Only the selected multiplexes (BEST panels) are indicated for each brown bear (*Ursus arctos*) subspecies.

Locus	Repeat motiv	Forward primer	Reverse primer	Annealing temp (°C)	Dye	Multiplex
G10B ¹	di-	TGCTAATATTTCTGAGGACT	AGGACAAATCACAGAACCT	52.5	HEX	
G10C ¹	di-	GTCTGCAAAAGCAGAAGG (<i>Uam</i>) AAAGCAGAAGGCCTGATTCTG (<i>Uaa</i>)	AAACACCGAGACAGCAGG (<i>Uam</i>) GGGACATAAACACCGAGACAGC (<i>Uaa</i>)	52.5	NED	3 - <i>Uam</i>
G10H ¹	di-	CAACAAGAAGACCACTGTAA	AGAGACCACCAAGTAGGATA	52.5	6_FAM	
G10L ¹	di-	ACTGATTTATTACACATCCC	GATACAGAAACCTACCCATGCG	57	HEX	
G10M ⁵	di-	GTITGCCCTTTGKCTACTGGA	CAAATAATTAAATGCATCCCAGGGG	52.5	6_FAM	
G10P ¹	di-	AGTTTACATAGGAGGAAGAA	TCATGTGGGAAATACTCTGAA	52.5	6_FAM	
G10X ¹	di-	CCCTGGTAACCACAAATCTCT	TCAGTTATCTGTGAAATCAAAA	52.5	6_FAM	2 - <i>Uaa</i>
G1D ¹	di-	CCATCTCTTTCCCTTAGGG	CTACTCTCCTACTCTTAAGAG	52.5	PET	3 - <i>Uam</i>
Mu05 ²	di-	AATCTTTCACTTATGCCA	GAAACTTGTATGGAACCA	57	PET	
Mu09 ²	di-	AGCCACTTGTAAAGGAGTAGT	ATATAGCAGCATATTGGCT	52.5	HEX	2 - <i>Uaa</i>
Mu10 ²	di-	ATTCAGATTCATCAGTTGACA	TCAGCATAGTTACACAAATCTCC	52.5	NED	
Mu11 ²	di-	AAGTAATTGGTAAATGACAG	GAACCCCTCACCGAAAATC	52.5	HEX	3 - <i>Uam</i> 2 - <i>Uaa</i>
Mu15 ²	di-	CTGAATTATGCAATTAAACAGC (<i>Uam</i>) GCCTGACCATCAACATC (<i>Uaa</i>)	AAATAAGGGAGGCTGGGT	52.5	HEX	
Mu23 ²	di-	GCCTGTGCTATTATTC	AATGGGTTCTGTTAATTAC	52.5	6_FAM	2 - <i>Uaa</i>
Mu50 ²	di-	GTCTCTGTCATTCCCCATC	ACCTGGAACAAAAATAACAC	57	HEX	3 - <i>Uaa</i>
Mu51 ²	di-	AGCCAGAACCTAAAGAGACCT	AAAGAGAAGGGACAGGAGGTA	52.5	HEX	3 - <i>Uam</i>
Mu59 ²	di-	GCTCTTGGGACATTGTAA	TGACTGTCACCAGCAGGAG	57	NED	2 - <i>Uam</i>
cxx20 ³	di-	AGCAACCCCTCCATTACT	TTGTCTGAATAGCCTCTGCG	57	NED	
REN144A06 ³	di-	TTTATGGTTGAGTGCTATTCC	GAAATGGCCACAGTCCAT	57	6_FAM	
UA03 ⁴	tetra-	GCTCCCATAACTGCATAAGGC	CTGGCTGGCTGGCTAGG	57	6_FAM	1 - <i>Uaa</i>
UA06 ⁴	tetra-	CCTCACTTAGCAGCCTACTTG	TGCTCTCTCTCAAATGAGC	57	HEX	
UA14 ⁴	tetra-	CCACATTACTGCCAGATAGAGC	ACATCAAACACTAATGATGACTG	57	HEX	1 - <i>Uaa</i>
UA16 ⁴	tetra-	CCCCAAGTCATTTCAATATG	CCTTAGTTAGTGGCCATCAATC	57	HEX	4 - <i>Uaa</i>
UA17 ⁴	tetra-	AAGGGTCAGAATTAGGTATCTGC	TGCTATTCATCTTCAACCTGAC	57	6_FAM	1 - <i>Uaa</i>
UA25 ⁴	tetra-	CTCCATTGGGGCTGTGTTGT	GATTGCTTCATGCACGCTTA	57	PET	1 - <i>Uam</i>
UA51 ⁴	tetra-	ACCACTTACTCCTCATGTCTG	GTGAGTTCAAGCACCACGTAG	57	6_FAM	3 - <i>Uaa</i>
UA57 ⁴	tetra-	ACATCTAGGACCAAGCATTGC	GTCTGCCTCTTAACCATGGC	57	6_FAM	2 - <i>Uam</i>
UA63 ⁴	tetra-	TATCCACTCACCACCATCCACCA	CCAGGAAGCGTAACCTCAGA	57	NED	
UA64 ⁴	tetra-	CATGCACTCTGTATCCCTGCT	CCTCTACCCTCTGCCCTGAC	57	PET	2 - <i>Uam</i>
UA65 ⁴	tetra-	TCAGGGTCTCCAAAGAAACA	CTGGGCCTCCACTATCATGT	57	6_FAM	4 - <i>Uaa</i>
UA67 ⁴	tetra-	TCCTGCTTACCGCACTTCTT	GAGGACACCAAGCTGTGAGAA	57	NED	2 - <i>Uam</i>
UA68 ⁴	tetra-	TTCCCAACTCCAAACACCCC	GGTAGGTAAGAAGGCATGCGATG	57	HEX	1 - <i>Uaa</i>
Amel4/SE47	Sex	AGAGGCAGGTCAAGAACAT	CAGCCAAACCTCCCTCTGC	57	6_FAM	1 - <i>Uam</i> 1 - <i>Uaa</i>

¹ loci designed on a genomic library of American black bears (*U. americanus*) [55–57]

² loci designed on a genomic library of European brown bears (*U. arctos*) [58, 59]

³ loci designed on the canid genome [60, 61]

⁴ loci developed for High-throughput sequencing (HTS) [36]

⁵ loci modified from [59]