

Table S2 - *Puma concolor* samples analyzed in this study, including their locale of origin, biome (South American samples only), ND5 haplotype and affiliation in the geographic groups defined by the AMOVA (see text for details).

Individual	Sampling Locale	Biome	Haplotype	AMOVA group
bPco001	Bataguassu, MS, BR	Atlantic Forest	H01	CNESA
bPco002	Usina de Porto Primavera, MS, BR	Atlantic Forest	H02	CNESA
bPco014	Cananéia, SP, BR	Atlantic Forest	H03	ESA
bPco019	MS, BR	Atlantic Forest / Cerrado/ Pantanal	H01	CNESA
bPco020	Anaurilândia, MS, BR	Atlantic Forest	H02	CNESA
bPco021	Anaurilândia, MS, BR	Atlantic Forest	H01	CNESA
bPco022	Anaurilândia, MS, BR	Atlantic Forest	H14	CNESA
bPco023	Anaurilândia, MS, BR	Atlantic Forest	H01	CNESA
bPco024	Barão de Melgaço, MT, BR	Pantanal	H02	CNESA
bPco025	Pantanal - MT, BR	Pantanal	H02	CNESA
bPco026	Barão de Melgaço, MT, BR	Pantanal	H03	CNESA
bPco027	Barão de Melgaço, MT, BR	Pantanal	H21	CNESA
bPco028	Pantanal, MT, BR	Pantanal	H21	CNESA
bPco029	Barão de Melgaço, MT, BR	Pantanal	H02	CNESA
bPco030	Barão de Melgaço, MT, BR	Pantanal	H21	CNESA
bPco031	Barão de Melgaço, MT, BR	Pantanal	H02	CNESA
bPco032	Pantanal, MT, BR	Pantanal	H02	CNESA
bPco033	Pantanal, MT, BR	Pantanal	H06	CNESA
bPco034	PE Cantareira, SP, BR	Atlantic Forest	H01	CNESA
bPco035	Jardim, MS, BR	Cerrado	H07	CNESA
bPco036	Pantanal - MS ou MT, BR	Pantanal	H06	CNESA
bPco037	Corumbá, MS, BR	Pantanal	H05	CSSA
bPco038	Corumbá, MS, BR	Pantanal	H05	CSSA
bPco039	Ponta Porã, MS, BR	Cerrado	H09	CNESA
bPco040	Jardim, MS, BR	Cerrado	H10	CNESA
bPco041	Alta Floresta, MT, BR	Amazon Forest	H11	CNESA

bPco042	Bataguassu, MS, BR	Atlantic Forest	H02	CNESA
bPco043	Batayporã, MS, BR	Atlantic Forest	H01	CNESA
bPco044	Anaurilândia, MS, BR	Atlantic Forest	H01	CNESA
bPco045	Anaurilândia, MS, BR	Atlantic Forest	H01	CNESA
bPco046	Anaurilândia, MS, BR	Atlantic Forest	H02	CNESA
bPco047	Anaurilândia, MS, BR	Atlantic Forest	H07	CNESA
bPco048	Anaurilândia, MS, BR	Atlantic Forest	H10	CNESA
bPco049	Anaurilândia, MS, BR	Atlantic Forest	H01	CNESA
bPco050	Ivinhema, MS, BR	Atlantic Forest	H10	CNESA
bPco051	Ivinhema, MS, BR	Atlantic Forest	H10	CNESA
bPco052	Ivinhema, MS, BR	Atlantic Forest	H10	CNESA
bPco053	Ivinhema, MS, BR	Atlantic Forest	H01	CNESA
bPco054	Anaurilândia, MS, BR	Atlantic Forest	H09	CNESA
bPco055	Ivinhema, MS, BR	Atlantic Forest	H14	CNESA
bPco056	Anaurilândia, MS, BR	Atlantic Forest	H01	CNESA
bPco057	Anaurilândia, MS, BR	Atlantic Forest	H09	CNESA
bPco058	Anaurilândia, MS, BR	Atlantic Forest	H10	CNESA
bPco059	Anaurilândia, MS, BR	Atlantic Forest	H10	CNESA
bPco060	Ivinhema, MS, BR	Atlantic Forest	H07	CNESA
bPco062	Miranda_MS_BR	Pantanal	H12	CSSA
bPco063	Miranda_MS_BR	Pantanal	H07	CSSA
bPco064	Miranda_MS_BR	Pantanal	H12	CSSA
bPco066	Ivinhema, MS, BR	Atlantic Forest	H01	CNESA
bPco067	Anaurilândia, MS, BR	Atlantic Forest	H09	CNESA
bPco069	Guaramiranga, CE, BR	Caatinga (Xeric Shrublands)	H13	CNESA
bPco070	Quixeramobim, CE, BR	Caatinga (Xeric Shrublands)	H13	CNESA
bPco071	Centralina, MG, BR	Atlantic Forest	H03	ESA
bPco080	Londrina, PR, BR	Atlantic Forest	H09	CNESA
bPco082	Santarém, PA, BR	Amazon Forest	H22	CNESA
bPco302	Itapetininga, SP, BR	Atlantic Forest /	H04	CNESA

		Cerrado		
bPco315	Ibirarema, SP, BR	Atlantic Forest	H02	CNESA
bPco316	GO, BR	Cerrado	H09	CNESA
bPco317	Analândia, SP, BR	Cerrado	H02	CNESA
bPco318	Ribeirão Branco, SP, BR	Atlantic Forest	H09	CNESA
bPco319	SP, BR	Atlantic Forest	H01	CNESA
bPco320	SP, BR	Atlantic Forest	H02	CNESA
bPco326	Corguinho, MS, BR	Atlantic Forest	H09	CSSA
bPco327	Ponta Porã, MS, BR	Cerrado	H06	CNESA
bPco331	Extrema, MG, BR	Atlantic Forest	H01	CNESA
bPco332	Ribeirão Preto, SP, BR	Cerrado	H15	ESA
bPco333	Luziânia, GO, BR	Cerrado	H02	CNESA
bPco337	Chapada Gaúcha, MG, BR	Cerrado	H02	CNESA
bPco338	Chapada Gaúcha_MG_BR	Cerrado	H02	CNESA
bPco342	Presidente Figueiredo, AM, BR	Amazon Forest	H16	NSA
bPco343	Rio Preto da Eva, AM, BR	Amazon Forest	H16	NSA
bPco346	São Geraldo do Araguaia, PA	Amazon Forest	H17	CNESA
bPco349	ParNA Montel Pascoal, BA, BR	Atlantic Forest	H03	ESA
bPco351	Getulina, SP, BR	Atlantic Forest	H02	CNESA
bPco358	Tefé, AM, BR	Amazon Forest	H16	NSA
d23	Rio Claro, SP, BR	Atlantic Forest	H02	CNESA
d25	Analândia, SP, BR	Cerrado	H02	CNESA
d29	Itirapina, SP, BR	Cerrado	H15	CNESA
d42	Matão, SP, BR	Cerrado	H15	ESA
d43	Catanduva, SP, BR	Atlantic Forest	H15	ESA
d44	Cajuru, SP, BR	Atlantic Forest / Cerrado	H02	ESA
d45	Paulínia, SP, BR	Atlantic Forest	H03	ESA
d51	Sertãozinho, SP, BR	Cerrado	H03	CNESA
d70	Araraquara, SP, BR	Cerrado	H15	ESA

d99	Itirapina, SP, BR	Cerrado	H15	ESA
PC01cc	Urubici, SC, BR	Atlantic Forest	H02	CNESA
PC03cc	Urubici, SC, BR	Atlantic Forest	H02	CNESA
PC04cc	Urubici, SC, BR	Atlantic Forest	H02	CNESA
PC06cc	Urubici, SC, BR	Atlantic Forest	H02	CNESA
PC07cc	Urubici, SC, BR	Atlantic Forest	H02	CNESA
PC08cc	Lages, SC, BR	Atlantic Forest	H02	CNESA
PC10cc	Lages, SC, BR	Atlantic Forest	H02	CNESA
PC11cc	Ponta Alta, SC, BR	Atlantic Forest	H02	CNESA
PC15cc	Lages, SC, BR	Atlantic Forest	H10	CNESA
PC18cc	Lages, SC, BR	Atlantic Forest	H10	CNESA
PC19cc	Lages, SC, BR	Atlantic Forest	H02	CNESA
PC20cc	São Joaquim, SC, BR	Atlantic Forest	H02	CNESA
PC22cc	Urubici, SC, BR	Atlantic Forest	H02	CNESA
PC23cc	Lages, SC, BR	Atlantic Forest	H10	CNESA
PC26cc	Blumenau, SC, BR	Atlantic Forest	H10	CNESA
PC27cc	Blumenau, SC, BR	Atlantic Forest	H16	CNESA
PC49cc	São Joaquim, SC, BR	Atlantic Forest	H02	CNESA
Pco007	Oregon, USA		H23	NCA+NA
Pco036	Texas, USA		H23	NCA+NA
Pco037	Texas, USA		H23	NCA+NA
Pco077	Florida, USA		H24	NCA+NA
Pco128	Texas, USA		H23	NCA+NA
Pco200	Torres Del Paine NP, Chile	Temperate grasslands and Shrublands	H18	SWSA
Pco201	Chile	Mediterranean scrub, montane grasslands, Desert and xeric Shrublands	H18	SWSA
Pco202	Punta Arenas, Chile	Patagonian Pampas (Temperate Grasslands, Savannas and Shrublands)	H18	SWSA
Pco207	Ovalle, IV region, Chile	Mediterranean scrub	H19	SWSA
Pco208	Vicuña, IV region, Chile	Mediterranean scrub	H18	SWSA
Pco209	Chile	Mediterranean scrub, montane grasslands, Desert and xeric Shrublands	H19	SWSA
Pco210	Chile	Mediterranean scrub, montane grasslands, Desert and xeric Shrublands	H19	SWSA

Pco211	Chile	Mediterranean scrub, montane grasslands, Desert and xeric Shrublands	H19	SWSA
Pco212	Cordillheiras Santiago, Chile/Mendoza, Argentina	Montane grasslands	H18	SWSA
Pco213	Angol/Coñaripe, Chile	Mediterranean scrub	H18	SWSA
Pco214	Antofagasta, Chile	Mediterranean scrub	H18	SWSA
Pco215	Ovalle, Chile	Mediterranean scrub	H19	SWSA
Pco216	Chile	Mediterranean scrub, montane grasslands, Desert and xeric Shrublands	H19	SWSA
Pco217	Chile	Mediterranean scrub, montane grasslands, Desert and xeric Shrublands	H19	SWSA
Pco218	Villarica, Chile	Mediterranean scrub	H18	SWSA
Pco242	British Columbia, Canada		H23	NCA+NA
Pco258	British Columbia, Canada		H23	NCA+NA
Pco340	Idaho, USA		H23	NCA+NA
Pco348	Florida, USA		H25	NCA+NA
Pco356	Texas, USA		H23	NCA+NA
Pco357	British Columbia, Canada		H23	NCA+NA
Pco372	Yellowstone NP, USA		H23	NCA+NA
Pco377	Yellowstone NP, USA		H23	NCA+NA
Pco446	El Petén, Guatemala		H26	NCA+NA
Pco541	Darién, Panama		H23	SCA
Pco542	Darién, Panama		H24	SCA
Pco544	Guanacaste, Costa Rica		H23	NCA+NA
Pco545	Costa Rica		H09	SCA
Pco546	Costa Rica		H24	SCA
Pco547	Costa Rica		H09	SCA
Pco548	Costa Rica		H09	SCA
Pco549	Granada, Nicaragua		H23	NCA+NA
Pco550	Chontales, Nicaragua		H23	NCA+NA
Pco551	Nicaragua		H27	NCA+NA
Pco552	Matagalpa, Nicaragua		H23	NCA+NA
Pco553	Nueva Guinea, Nicaragua		H26	NCA+NA

Pco554	North Nicaragua		H23	NCA+NA
Pco555	Central-North Guatemala		H26	NCA+NA
Pco556	El Petén, Guatemala		H23	NCA+NA
Pco557	Sul Guatemala		H28	NCA+NA
Pco562	North Argentina	Montane grasslands, trop. and subtrop. moist forests, trop. and subtrop. grasslands and shrublands, trop. and subtrop. dry forests	H07	CSSA
Pco564	Foothills of Andes, Argentina	Montane grasslands	H07	SWSA
Pco565	La Pampa, Argentina	Patagonian Pampas (Temperate Grasslands, Savannas and Shrublands)	H18	SWSA
Pco567	Chubut, Argentina	Patagonian Pampas (Temperate Grasslands, Savannas and Shrublands)	H07	SWSA
Pco570	Mendoza, Argentina	Montane grasslands	H18	SWSA
Pco573	Mendoza, Argentina	Montane grasslands	H18	SWSA
Pco577	Córdoba, Argentina	Patagonian Pampas (Temperate Grasslands, Savannas and Shrublands)	H07	CSSA
Pco580	Mercedes Zoo, Uruguay	Pampa (tropical and subtropical grasslands and shrublands)	H09	CSSA
Pco581	Paraguay	Tropical and subtrop. grasslands and shrublands, trop. and subtrop. dry forest, chaco	H07	CNESA
Pco582	Zoo Durazno, Uruguay	Pampa (tropical and subtropical grasslands and shrublands)	H09	CSSA
Pco599	Northwest SP, BR	Atlantic Forest/ Cerrado	H03	ESA
Pco601	Araguaína, TO, BR	Cerrado	H10	CNESA
Pco602	Goiás, BR	Cerrado	H02	CNESA
Pco697	Araguaia, GO, BR	Cerrado	H02	CNESA
Pco699	Chaco Paraguay	Pantanal (Chaco)	H02	CNESA
Pco700	Campina Grande, PB, BR	Caatinga (Xeric Shrublands)	H02	CNESA
Pco701	Paraguay	Tropical and subtrop. grasslands and shrublands, trop. and subtrop. dry forest, chaco	H01	CNESA
Pco702	Usina de Porto Primavera, MS, BR	Atlantic Forest	H15	CNESA
Pco703	Venezuela	Tropical and subtrop. moist forests, trop. and subtrop. grasslands and shrublands, trop. and subtrop. dry forest	H20	NSA
Pco704	Falcón, Venezuela	Coriano System	H16	NSA
Pco705	Barquisimeto, Venezuela	Coriano System	H16	NSA
Pco706	Potosí, Bolivia	Montane grasslands	H09	CSSA
Pco707	Santa Cruz, Bolivia	Beni Savanna, Tropical and subtrop. dry broadleaf forest/Amazon Rainforest (trop. moist forests)	H06	CSSA
Pco708	Santa Cruz, Bolivia	Tropical and subtrop. dry broadleaf forest/Amazon Rainforest (trop. moist forests)	H09	CSSA

Pco709	Potosí, Bolivia	Montane grasslands	H09	CSSA
Pco710	Potosí, Bolivia	Montane grasslands	H08	CSSA
Pco712	Batayporã, MS, BR	Atlantic Forest	H09	CNESA
bPco015*	Campinas Zoo, BR		-	-
bPco016*	Campinas Zoo, BR		-	-
Pco558*	Argentina		-	-
Pco559*	Argentina		-	-
Pco560*	Argentina		-	-
Pco561*	Argentina		-	-
Pco571*	Mendoza Zoo, Argentina		-	-
Pco574*	Mendoza Zoo, Argentina		-	-
Pco575*	Mendoza Zoo, Argentina		-	-
Pco578*	Cordoba Zoo, Argentina		-	-
Pco579*	Cordoba Zoo, Argentina		-	-
Pco600*	Sorocaba Zoo, SP, BR		-	-

\* Samples included only in general estimates of genetic diversity indices and neutrality tests.