

Supplementary Materials for

Biochemical pedomorphosis and genetic assimilation in the hypoxia adaptation of Tibetan antelope

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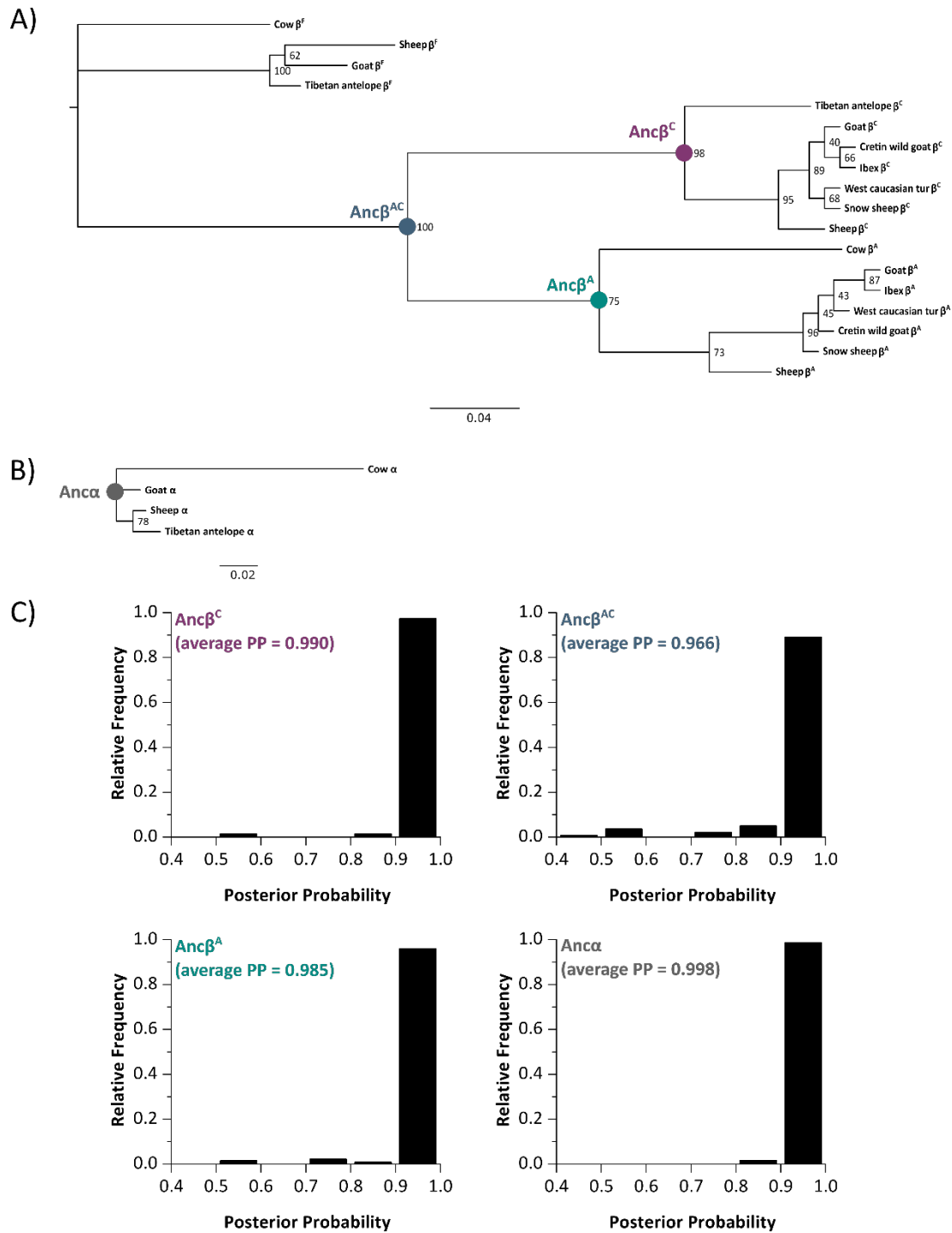


Fig. S1. Ancestral sequence reconstructions of bovid globin genes. Estimated maximum likelihood phylogenies of bovid (A) β -globin and (B) α -globin genes. Filled circles represent nodes for which ancestral sequences were reconstructed. Scale bars denote the mean number of substitutions per site. (C) Relative frequencies of posterior probabilities for each reconstructed codon. Histogram label colors correspond to node colors in A and B.

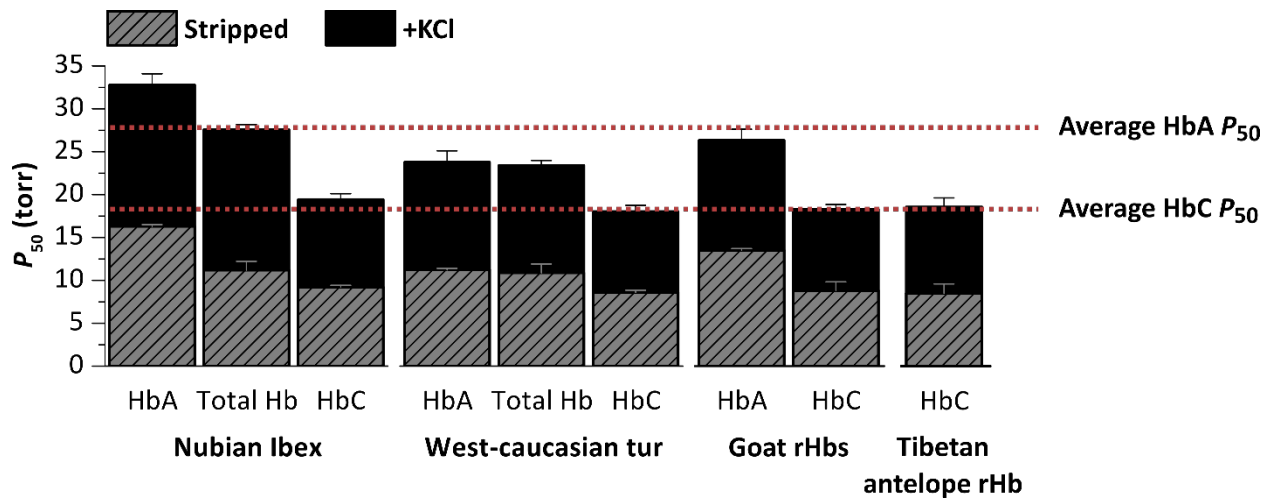


Fig. S2. O_2 -affinities of purified HbA, HbC, and total Hb (HbA + HbC) from select bovid species. O_2 tensions at half saturation (P_{50} , torr; mean \pm s.e.m., $n=3$) are shown for individual isoHbs and total Hb in the absence and presence of 0.1 M KCl at 37°C, pH 7.4 (0.1 mM Hb_4).

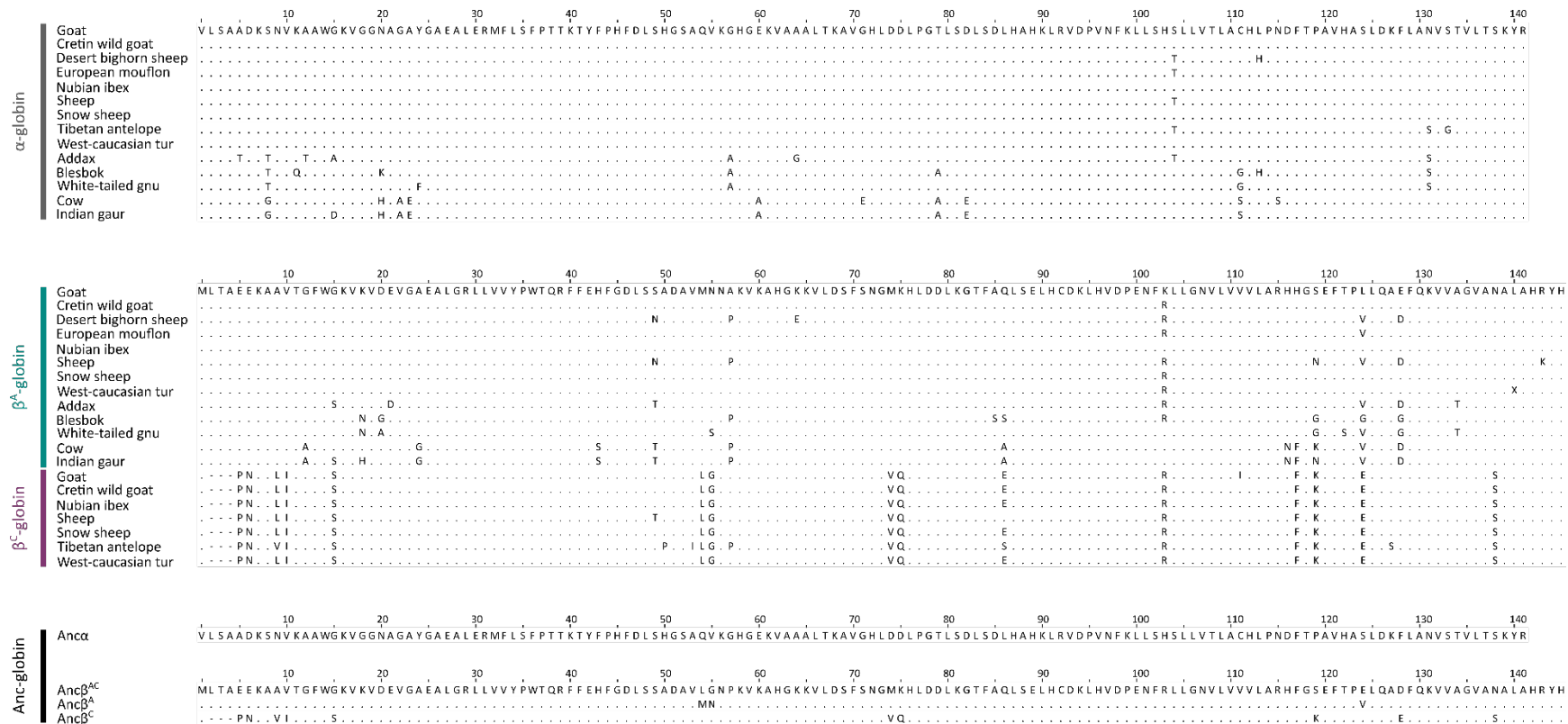


Fig. S3. Amino acid variation in postnatally expressed α - and β -type globins of select bovid species.

Table S1. Genomic sequences of the α - and β -globin gene clusters of bovid species that were included in the phylogenetic analyses.

Species	α-globin accession #s	β-globin accession #s
Cow, <i>Bos taurus</i>	NC_037352.1	NC_037342.1
Goat, <i>Capra hircus</i>	NC_030832.1	NC_030822.1
Sheep, <i>Ovis aeries</i>	NC_040275.1	NC_040266.1
Tibetan antelope, <i>Panthalops hodgsonii</i>	JF811751.1	JX276960.1
	DQ650713.1	HQ897270.1
	NW_005806747	AGTT01081104.1
		AGTT01081105.1
		AGTT01081106.1
		AGTT01081107.1
		AGTT01081108.1
		AGTT01081109.1
		AGTT01081110.1
		AGTT01081111.1