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Unique variations of SRY gene result in distinct patrilineal phylogeny of Capra hircus and other domestic Bovidae

Xin CAI
School of Life Science and Engineering, Southwest University of Science and Technology , Mianyang, Sichuan 621010, China

Abstarc :

Patrilineal phylogeny of Beichuan White goat and other domestic

Bovidae

was inferred from 5 ?-

UTR and coding region of

SRY

gene. Variation analysis revealed 208 variable sites, meanwhile,

a 50-bp fragment inserted downstream of the initiation codon (ATG) of

SRY

genes modified the

translational initiation process in

Bos

and

Bubalus

, while the mechanism of what should be explained

in a further study. Amino acid sequence alignments of HMG-box region indicated a high degree

of conservation among goats and other

Bovidae

. All the sequences of

Bovidae

clustered into

Bos,

Bubalus

and

Capra

.

Bos indicus, Bos taurus, Bos javanicus, Bos frontalis, Bos grunniens

and

Bison

bonasus

were

comprised in genus

Bos,

while

Bubalus bubalis

and

Syncerus caffer

belonged to genus

Bubalus

. Beichuan white goats and other

Capra hircus

specimens

were clustered into genus

Capra

.

Patrilineal phylogeny of

Bovidae

exhibited a discrepancy from the earlier matrilineal analysis.

Key Word :
Bovidae / Capra hircus / SRY gene / Patrilineal phylogeny

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