



Supplementary Material

Mutational and Evolutionary Analysis of Interleukin-2 Gene in Pakistani Goat Breeds

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Dera_Din_Panah_42 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_41 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_47 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_46 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_39 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_43 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTC--
Dera_Din_Panah_20 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_32 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_28 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_36 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_12 TGCTTTTAAATAACAATCTGTTATGCTTTCTC
Dera_Din_Panah_49 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Dera_Din_Panah_48 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
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A
Nach1_02 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_22 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_15 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_16 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_14 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_11 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_10 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_09 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_08 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_03 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_01 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTC--
Nach1_04 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_13 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_21 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Nach1_26 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGA-----
*****

B
Kamori_4 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_13 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_14 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_16 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_18 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_19 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_20 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_21 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_22 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_23 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_24 TGCTTTTAAATAACAAT-----
Kamori_26 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_30 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Kamori_32 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
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C
Beetal_45 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTC--
Beetal_62 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Beetal_68 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTC--
Beetal_63 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Beetal_02 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Beetal_10 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Beetal_29 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Beetal_43 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Beetal_42 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Beetal_60 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
Beetal_65 TGCTTTTAAATAACAATCTGTTATGCTTTCTCAGAATCCCGAGAACCCTCAAGCTCTCCA
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D
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Supplementary Fig. 1. Transversion substitution of single nucleotide (T→A) observed in the non-coding region of IL-2 gene in multiple sequence alignment of Dera Din Panah (A), Nachi (B), Kamori (C) and Beetal (D) goat breed. Rectangular box is showing site of polymorphism.

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