

Nucleotide sequences of the gene/cDNA coding for anti-murine erythrocyte autoantibody produced by a hybridoma from NZB mouse

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We have determined the nucleotide sequences of the V_H and V_κ genes derived from B13H4C8 hybridoma (μ, κ) producing haemagglutinating autoantibody reactive with the exposed murine erythrocyte autoantigens (1).

The V_H clone was isolated by screening of B13H4C8 λgt10 cDNA library with C_μ probe, and the V_κ clone was obtained by screening Charon 28 genomic library with C_κ probe. The V_H sequence was composed of a V_H segment more than 88% homologous to that of the anti-DNA autoantibody of the J558 family (2), a short D segment with unknown origin, and J_H3 segment. The V_L sequence comprised a V_κ segment more than

89% homologous to that of the anti-phosphocholine antibody of the V_κ8 group (3), and J_κ5 segment.

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A

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CTCCACAGTCCCTGAACACACTGACTCTAACCACTGGAATGGCCCTTGTATCTCTCTTCC 60
      M E W P L I S L F
TCTGTGAGCAAGTGCAGGTGTCCAATCCAGGTTTCAGCTGCAGCAGTCTGGGGCTGAAC 120
L L S G T A G V Q S Q V Q L Q Q S G A E
TGGTGAAGCCTGGGGCTCAGTGAAGATTTCTGCAAGCTTCAGGCTACGCATTAGTA 180
L V K P G A S V K I S C K A S G Y A F S
GTGACTGGATGAATGGTTGAAACAGAGGCTGGAAAAATCTTGAGTGGATTGGACAGA 240
S D W M N W L K Q R P G K N L E W I G Q
TTTATCCTGGAGATGGTGATACTAATAACGAAAATCTCAGGACAAAGGCCACACTGA 300
I Y P G D G D T N Y N E N F R D K A T L
CTGCAGACAAATTGTCAGCACAGTCTACATGCAGCTCAGCAGCCTGACCTGTGAGGACT 360
T A D K L S S T V Y M Q L S S L T S E D
CTGCCGTCTATTTCTGTGCAAGAGGTGATTACTGGTTTCTTACTGGGCAAGGGGACTC 420
S A V Y F C A R G D Y W F P Y W G Q G T
TGGTCACTGTCTGCTGAGAGTCACTCTCC
L V T V S A E S Q S F
    
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B

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GTCATCTCTCAGTGATCCCTCTTGCTCTCTCTGATGGCATTGTTGTTGATTGACACCATC 60
CACTCTCACACACTGCCAGGCATTTGCTTTTGTATTTGCTGGCTGTTTGCATAGAC 120
CCCTCCAGCCTAACCCAGTCTCAGAATTTATAAACAGTATGAACTGAGCAGCATCAG 180
ACAGGCAGGGGAAGCAAGATGGATTACAGGCCAGGTTCTTATGTTACTGCTGCTATGG 240
      M D S Q A Q V L M L L L L W
GTATCTGGTGAGAAATTTAAAAGTATTATCATTTTCAGAGTTACACCTTTTTATATAAGAA 300
V S G E K F K S
ATTTATACTATGTGCAAGTGTGAATATTACTTCCATAATAACTCTGACAAATATGACATT 360
ACAAAGACCTTTGACAAATTTCAACTATTATAAATCTATTTGTGTATGTATTATGTT 420
CACTTTCTACTTATTTTCAGGTACCTGTGGGACATTGTGATGTCACAGTCTCCATCTCC 480
      T C G D I V M S Q S P S S
CTAACTGTGTCAGTTGGAGAGAAGGTTACTATGAACTCAAGTCCAGTCCAGACCTTTTA 540
L T V S V G E K V T M N C K S S Q S L L
TATAGTAAACAATCAAAAAAATCTTGGCCCTGGTACCAGCAGAAACCAGGGCAGTCTCCC 600
Y S N N Q K N Y L A W Y Q Q K P G Q S P
AAACTGCTGATTTACTGGGCATCCACTAGGGAATCTGGGGTCCCTGATCGCTTCAGAGCC 660
K L L I Y W A S T R E S G V P D R F T G
AGTGGATCTGGGACAGATTTCACTCTCACCATTAGCAGTGTGAAGGCTGAAGACCTGGCA 720
S G S G T D F T L T I T T V K A E D L A
GTTTATTTCTGTCAACAATATTATAGCTTTCTCACGTTCCGGTCTGGGACCAAGCTGGAG 780
V Y F C Q Q Y Y S F L T F G A G T K L E
CTGAAACGTAAG
L K R
    
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Figure 1. Nucleotide sequences of the V_H(A) and V_κ(B) genes. Junctions of signal sequences, V, D, J and C are shown by arrow heads. Octamer and TATA box of the V_κ gene are underlined.