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Infectious bronchitis virus RNA D encodes three potential translation products

H.G.M.Niesters, A.J.Zijderveld, W.F.Seifert, J.A.Lenstra, N.M.C.Bleumink-Pluym[1], M.C.Horzinek and B.A.M.van der Zeijst[1]

Institute of Virology, PO Box 80.150 and [1]Section Bacteriology, PO Box 80.171, Veterinary Faculty, State University, Utrecht, The Netherlands

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SOURCE AND DESCRIPTION OF THE CLONE: the sequence of the 5' unique region of mRNA D (1) of the vaccine strain M41 of avian infectious bronchitis virus, a Coronavirus, has been determined from genomic cDNA clones.

cDNA AND AMINO ACID SEQUENCE:

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                                    M  I  Q  S  P  T  S  F  L  I  V  L  I  F  L  W  C  K  L  V  L  S  C  F  R  E
GATGTGGTAACTGAACAAAACAGACCTAAAAAGTCTGTTTAATGATTCAAAGTCCCACGTCCTTCCTAATAGTATTAATTTTTCTTTGGTGTAAACTTGTACTAAGTTGTTTTAGAGAGT 120

                                                                                                  M  L  N  L  E  A  I  I  E
F  I  I  A  L  Q  Q  L  I  Q  V  L  L  Q  I  I  N  S  N  L  Q  P  R  L  T  L  C  H  S  L  D  *
TTATTATAGCGCTCCAACAACTAATACAAGTTTTACTCCAAATTATCAATAGTAACTTACAGCCTAGACTGACCCTTTGTCACAGTCTAGACTAATGTTAAACTTAGAAGCAATTATTGA 240

 T  G  E  Q  V  I  Q  K  I  S  F  N  L  Q  H  I  S  S  V  L  N  T  E  V  F  D  P  F  D  Y  C  Y  Y  R  G  G  N  F  W  E
AACTGGTGAGCAAGTGATTCAAAAAATCAGTTTCAATTTACAGCATATTTCAAGTGTATTAAACACAGAAGTATTTGACCCCTTTGACTATTCTTATTACAGAGGAGCTAATTTTTGGGA 360

 I  E  S  A  E  D  C  S  G  D  D  E  F  I  E  *
                                 M  M  N  L  L  N  K  S  L  E  E  N  G  S  F  L  T  A  L  Y  I  F  V  G  F  L  A  L  Y  L
AATAGAGTCAGCTGAAGATTGTTCAGGTGATGATGAATTTATTGAATAAGTCGCTAGAGGAAAATGGAAGTTTTCTAACAGCGCTTTACATATTTGTAGGATTTTTAGCACTTTATCTTC 480

L  G  R  A  L  Q  A  F  V  Q  A  A  D  A  C  C  L  F  W  Y  T  W  V  V  I  P  G  A  K  G  T  A  F  V  Y  K  Y  T  Y  G
TAGGTAGAGCACTTCAAGCATTTGTACAGGCTGCTGATGCTTGTTGTTTATTTTGGTATACATGGGTAGTAATTCCAGGAGCTAAGGGTACAGCCTTTGTATATAAGTATACATATGGTA 600

R  K  L  N  N  P  E  L  E  A  V  I  V  N  E  F  P  K  N  G  W  N  N  K  N  P  A  N  F  Q  D  V  Q  R  D  K  L  Y  S  *
GAAAACTTAACAATCCGGAATTAGAAGCAGTTATTGTCAACGAGTTTCCTAAGAACGGTTGGAATAATAAAAATCCAGCAAATTTTCAAGATGTCCAACGAGACAAATTGTACTCTTGAC 720
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COMMENTS: three open reading frames were found with coding capacities for polypeptides of molecular weights 6728, 7414 and 12441, respectively. The putative homology regions, where the leader and the body sequence of the messengers are fused together, have been underlined. The sequence differs slightly from the mRNA D sequence of the Beaudette strain (2).

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REFERENCES: 1. Stern, D.F. and Sefton, B.M. (1984) J. Virol. 50, 22-29.

2. Boursnell, M.E.G., Binns, M.M. and Brown, T.D.K. (1985) J. Gen. Virol. 66, 2253-2258.