

Cloning and sequencing of the nucleoprotein gene of measles virus (Hallé strain)

Robin Buckland, Christophe Gerald¹, Dick Barker² and Fabian Wild

Immunovirologie moléculaire et cellulaire, CNRS/UMR 5, Faculté Alexis Carrel, 69372 Lyon, Cedex 08 France, ¹Neurobiology, Harvard Medical School, Boston, MA 02115, USA and ²PBI, Trumpington, Cambridge, UK

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The cDNA for the Nucleoprotein (NP) of Measles virus (Hallé strain) was obtained by screening a pCD cDNA library¹, with a probe representing a fragment of the Edmonston strain NP gene. A comparison with the published sequence for the NP of the Edmonston strain^{2,3} shows that there are 14 nucleotide changes, 10 of which result in amino acid changes, 6 of which are to the amino acid found in the corresponding position in Canine Distemper virus NP². The two MV NPs are 98% homologous and although this value is less than that found for two other MV proteins^{1,4}, it is higher than those found between NPs from defective strains⁵.

10 20 30 40 50
AGGATTCAG ATCCTATTAT CAGGACAG AGCAGGATTA GGGATATCCG AG
60 70 80 90 100 110 120 130 140 150 160 170
N A T L L R S L A L F P R N K D K P P I T S G S G G A I R G I R H I I V P I P
ATGGCCACACTTTTAGGAGCCTTAGCATTGTTCAAAGGACAAAGCAAAOCCACCACTTACATCAGGATCCGGTGGAGCCATCAGAGAACTAAACACATTATTATAGTACCAATCCCT
180 190 200 210 220 230 240 250 260 270 280 290
G D S S I T T R S R L L D R L V R L I G W P D V S G P K L Y G A L I G I L S L F
GGATATCCCTCAATTCACACTCGATCGACACCTTCGAGCCCGTGGTCAAGTAAATTTGAAACCCCGATGTCAGCCGGCCCAAACTACAGGCGCAGCAATAATAGTATAATTATTCATTC
300 310 320 330 340 350 360 370 380 390 400 410
V E S P G O L I Q R I T D D P D V S I R L L E V V S D D Q S O S G L T A S R G
GTGGATCTCCAGGTCATATGATTCAGAGGATCAACCGATGACCCGACGTTAGCATTAAGCGTGTTCAGAGGTGACCACTCACAATCTGCCCTTACCTTCGCATCAAGAGGT
420 430 440 450 460 470 480 490 500 510 520 530
T H N E D A D Q Y F S H D D L I S S D G Q R F G V F F E W K R E I S D I E W Q D P
AOCACATGAGAGTGGAGCCGACCAACTTTCACATGATGATCAATTCAGGTTCCGATGTCGATGTCGAGAGCAAGAAATCTCAGATATGAAAGTGCAGACCCCT
540 550 560 570 580 590 600 610 620 630 640 650
E G F H N I L G T I L A Q I N V L V A E A V T A P D T A A D S E L R R W I K Y T
GAGGATTCACATGATTCGAGTACCACTTCAGCCCAATTTGGCTTGGTCCAGAACCGGTTACGCCCCGACAGCCAGCTGATTCGAGGTAGAGAGTGTGATTAAGTACCC
660 670 680 690 700 710 720 730 740 750 760 770
C Q A A A A G A G G T A G T T G T G A A T T A G A T T G A G A A A A T T G T G A T T G T G A G A A C A G A T T G C C A G A G A C T C T C T T A C G C C G A T T C A T T G C T C T A T C T G A T C
780 790 800 810 820 830 840 850 860 870 880 890
K R T P G H K P R I A E N I C H I D T Y I A G A S A S L L E K F I E R W
AAGAGACCCCGGAAACAAACCCAGATTCCTCAATGATATGATACATATATCTAGAGCCAGGATTAGCCAGTTTATTCCTGACTATTAAGTTGGATAGAACTATG
900 910 920 930 940 950 960 970 980 990 1000 1010
Y F P A L G L N E F D G E L S L E S L S H W L Y Q Q G E T A P E L N F G R S T F D P A
TATCTGCTCTTGGAGTCCATGAATTTGATGGTCACTGACACTTGGCTCTTGAAGACTTTACAGCAAAATGGGGAACTCCACCTCAGACCTGATGATGATTCCTGAGACTTCAATT
1020 1030 1040 1050 1060 1070 1080 1090 1100 1110 1120 1130
Q H E F S A G S Y P L R S T L H G V G V L R H L E R H S H G L N F G R S T F D P A
CAGAACAGTTCACTGAGATCAATCCCTCTCTGGAGCTATGCCATGGAGTAGGAGTGGAACTGAAACTCCATGGAGGTTGAACTTGGCCGATCTTACTTGAATCCCA
1140 1150 1160 1170 1180 1190 1200 1210 1220 1230 1240 1250
Y F R L G V E N H R S A G F S T L A S L G I T A E D A R L V S E I A H N
TATTTTAGATTAGGACAGAGATGTTAGGAGGCTCAGCTGGAAAGCTCAGTTCCAGATTCGACTCGATATCGATCCGGAGATGCAAGGCTTTCACAGATTCGAATGAT
1260 1270 1280 1290 1300 1310 1320 1330 1340 1350 1360 1370
T T E D E I S R A V G P R Q L Q V S F L H G D Q S E H E L P R L G G K E D R R V
ACTACTGAGGACAGATCAGTAGGCGGTTGGACCCAGACAGCCAGATGATCTTCTACACGGTGAACAAGTGAGATGAGCTACCGAGATTGGGGGGCAAGAGATAGGAGGCTC
1380 1390 1400 1410 1420 1430 1440 1450 1460 1470 1480 1490
K G S R G E A R E S Y R T G P S R A S D A R A A H L P T G T P L D I D T A S E
AAACAGAGTGGAGAGAGGACAGAGCTACAGAGAACCGGCCCCAGAGCAAGTGAATGGAGACTGCCACTTCCACAGCCGACACCTAGCATAGCATCTGACTGATCGAG
1500 1510 1520 1530 1540 1550 1560 1570 1580 1590 1600 1610
S S G D P G D S R R S A D A L R L Q A H A G I S E S E G S D I D T P I V V W D
TCCAGCCAGATCCGACAGCAGTGAAGGCTCAGCTGACCCCTTCTTAGCTCAAGCCATGCCAGAAATCTGGAGAGCAAGCTCAGACACCGACACCCCTATAGTGTACATGAC
1620 1630
R W L L D *
AGAACTCTTAGACTAG
1640 1650 1660 1670 1680
GTGGAGAGG CCGAGAGCCA GAACAGACT CCGCTACCTTCCATCTATTG TATA

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References

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