
Nucleotide sequence of an altered virulence Potato virus Y coat protein gene (PVY^H strain)

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Recently several nucleotide sequences of Potato virus Y coat protein gene were published (1-6). cDNA has been synthesised from a strong pathovar strain of potato virus Y RNA (causing necrotic rings around the buds on the tubers) and cloned into pUC-18. cDNA library was constructed using oligo dT priming and the largest clones were selected and subcloned. Subclones were sequenced by the chain termination method. The nucleotide sequence reported here comprises the entire viral coat protein gene and differences from the known sequences are also shown (Fig.1). Partial sequence analysis suggests the existence of two subgroups of the sequenced virus strains.

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1  GGAAATGACACAATCGATGCAGGAGGAAGCACTAAGAAGGATGCAAAAACAAGAGCAAGGTAGCATTCAACCAATCTCAACAATGGAAAGGAAAAGGACG
   3   1   4           1 33 1 4 1   3   12 3   3 32 1 3123 11 6 3   3 14 3 3
101 TGAATGTTGGAACATCTGGAACCTACTGTGCCACGAATTAAGCTATCACGTCCAAAATGAGAATGCCCAAGAGTAAAGGTGCAGCTGTACTAAATTT
    1   22 4           3 3 1 1 1 33 1 3 4           1   1 23 3 5 3 1 413 242 1 2
201 GAAACACTTGCTCGAGTATGCTCCACAGCAAATGACATCTCAAATACTCGAGCAACTCAATCACAGTTTGATACGTGGTATGAAGCGGTACAACCTTGCA
   46  11 3 2           3   1 1 3           3           1 2           3 5 4 343 4
301 TACGACATAGGAGAAAATGAAATGCCAACTGTGATGAATGGGCTTATGGTTTGGTGCATTGAAAATGGAACCTCGCCAAACATCAACGGAGTTTGGGTTA
    1   3           1           52 1 1 1
401 TGATGGATGGAGATGAACAAGTCGAATACCCACTGAAACCAATCGTTGAGAATGCAAAACCAACACTTAGGCAAATCATGGCACATTTCTCAGATGTTGC
    34 1           3 2   33 2   1           3 1
501 AGAAGCGTATATAGAAATGCGCAACAAAAGGAACCATATATGCCACGATATGGTTTGTTCGTAATCTGCGCGATGGAAGTTTGGCTCGCTATGCTTTT
    1   1 1 1 1           1           2 4   3 2322 1 4 3 2 3
601 GACTTTTATGAGGTCACATCACGAACACCAGTGAGGGCTAGGGAAGCGCACATTCAAATGAAGGCCGAGCATTGAAATCAGCCCAATCTCGACTTTTCG
    4 3           2 1           3 3 3 1           3 3           4 3
701 GGTGGACGGTGGCATTAGTACACAAGAGGAGAACACAGAGAGGCACACCACCGAGGATGTCTCTCCAAGTATGCATACTCTACTTGGAGTCAAGAACATG
    3 4   3           3   1   11   4   1   1 2   13 2
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Fig. 1: Nucleotide sequence of the coat protein gene of PVY^H. From an alignment with the other six published sequences, number of those with a different base are indicated at the respective positions. At position 202, all sequences except the one presented are identical.

References:

- 1) Van der Vlugt, R. et al. J. Gen. Virol. (1989) 70, 229-233;
- 2) Robaglia, C. et al. J. Gen. Virol. (1989) 70, 935-947;
- 3) Bravo-Almonacid, F. and Mentaberry, A. N. Nucl. Acids Res. (1989) 17, 4401;
- 4) Wefels, E. et al. Arch. Virol. (1989) 107, 123-134;
- 5) Hay, J. M. et al. Arch. Virol. (1989) 107, 111-122;
- 6) Lawson, C. et al. Bio/technology (1990) 8, 127-134;