

A.

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DWV-L-GFP      MAFSCGTLSSAVAQAPSVAHAPRTWEVDEARRRRVIKRLALEQERIRNVLDAGVYDQAT 60
DWV-S-GFP      MAFSCGTLSSAVAQAPSVAHAPRTWEVDEARRRRVIKRLALEQERIRNVLDAGVYDQAT 60
DWV-304-MG831200 MAFSCGTLSSAVAQAPSVAHAPRTWEVDEARRRRVIKRLALEQERIRNVLDAGVYDQAT 60
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DWV-L-GFP      WEQEDARDNEFLTEQLNNLYTIYSIAERCTRRPIKEHSPISVSNRFAPLES LKVEVGQEA 120
DWV-S-GFP      WEQEDARDNEFLTEQLNNLYTIYSIAERCTRRPIKEHSPISVSNRFAPLES LKVEVGQEA 120
DWV-304-MG831200 WEQEDARDNEFLTEQLNNLYTIYSIAERCTRRPIKEHSPISVSNRFAPLES LKVEVGQEA 120
*****

DWV-L-GFP      GECIFKKPKYTRVCKKVKRVATRFVREKVVVRPMCSRSPMLLFKLKKIYDLHLRLRKQI 180
DWV-S-GFP      GECIFKKPKYTRVCKKVKRVATRFVREKVVVRPMCSRSPMLLFKLKKIYDLHLRLRKQI 180
DWV-304-MG831200 GECIFKKPKYTRVCKKVKRVATRFVREKVVVRPMCSRSPMLLFKLKKIYDLHLRLRKQI 180
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DWV-L-GFP      RILRRQKQREYELECVTNLLQLSNP VQAKPEMDNPNPG GAPMVSKGEELFTGVVPIILVEL 240
DWV-S-GFP      RILRRQKQREYELECVTNLLQLSNP VQAKPE ----- GAPMVSKGEELFTGVVPIILVEL 233
DWV-304-MG831200 RILRRQKQREYELECVTNLLQLSNP VQAKPE ----- 209
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DWV-L-GFP      DGDVNGHKFSVSGEGEGDATYGKLT LKFICTTGKLPVPWPPTLVTTLT YGVQCFSRYPDHM 300
DWV-S-GFP      DGDVNGHKFSVSGEGEGDATYGKLT LKFICTTGKLPVPWPPTLVTTLT YGVQCFSRYPDHM 293
DWV-304-MG831200 DGDVNGHKFSVSGEGEGDATYGKLT LKFICTTGKLPVPWPPTLVTTLT YGVQCFSRYPDHM 209
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DWV-L-GFP      KQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILG 360
DWV-S-GFP      KQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILG 353
DWV-304-MG831200 KQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLVNRIELKGIDFKEDGNILG 209
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DWV-L-GFP      HKLEYNYNSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLADHYQQNTPIGDGPVLLPDN 420
DWV-S-GFP      HKLEYNYNSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLADHYQQNTPIGDGPVLLPDN 413
DWV-304-MG831200 HKLEYNYNSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLADHYQQNTPIGDGPVLLPDN 209
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DWV-L-GFP      HYLSTQSALS KDPNEKRDMVLLFEVTAAGITLGMDELYKGS VQAKPEMDNPNPG PDGEG 480
DWV-S-GFP      HYLSTQSALS KDPNEKRDMVLLFEVTAAGITLGMDELYKGS VQAKPEMDNPNPG PDGEG 473
DWV-304-MG831200 HYLSTQSALS KDPNEKRDMVLLFEVTAAGITLGMDELYKGS VQAKPEMDNPNPG PDGEG 223
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DWV-L-GFP      EVELEKDSNVVLTQRDPSTSIAPVSVKWSRWTSNDVDDYATITSRWYQIAEFVWSKD 540
DWV-S-GFP      EVELEKDSNVVLTQRDPSTSIAPVSVKWSRWTSNDVDDYATITSRWYQIAEFVWSKD 533
DWV-304-MG831200 EVELEKDSNVVLTQRDPSTSIAPVSVKWSRWTSNDVDDYATITSRWYQIAEFVWSKD 283
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B.

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DWV-S-GFP      GAPMVSKGEELFTGVVPIILVELDGDVNGHKFSVSGEGEGDATYGKLT LKFICT 53
DWV-L-GFP      MDNPNPG GAPMVSKGEELFTGVVPIILVELDGDVNGHKFSVSGEGEGDATYGKLT LKFICT 60
Plant-GFP      MASKGEELFTGVVPIILVELDGDVNGHKFSVSGEGEGDATYGKLT LKFICT 50
*****

DWV-S-GFP      TGKLPVPWPPTLVTTLT YGVQCFSRYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTR 113
DWV-L-GFP      TGKLPVPWPPTLVTTLT YGVQCFSRYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTR 120
Plant-GFP      TGKLPVPWPPTLVTTLT YGVQCFSRYPDHMKRHDFFKSAMPEGYVQERTIFFKDDGNYKTR 110
*****

DWV-S-GFP      AEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNYNSHNVYIMADKQKNGIKVNFKIRH 173
DWV-L-GFP      AEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNYNSHNVYIMADKQKNGIKVNFKIRH 180
Plant-GFP      AEVKFEGDTLVNRIELKGIDFKEDGNILGHKLEYNYNSHNVYITADKQKNGIKANFKIRH 170
*****

DWV-S-GFP      NIEDGSVQLADHYQQNTPIGDGPVLLPDNHYLSTQSALS KDPNEKRDMVLLFEVTAAGI 233
DWV-L-GFP      NIEDGSVQLADHYQQNTPIGDGPVLLPDNHYLSTQSALS KDPNEKRDMVLLFEVTAAGI 240
Plant-GFP      NIEDGSVQLADHYQQNTPIGDGPVLLPDNHYLSTQSALS KDPNEKRDMVLLFEVTAAGI 230
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DWV-S-GFP      TLGMDELYKGS VQAKPE 250
DWV-L-GFP      TLGMDELYKGS VQAKPE 257
Plant-GFP      THGMDELYK 239
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Figure S1. The eGFP-coding sequences inserts in DWV vector. (A) Alignment of the N-terminal sections of the polyproteins encoded by infectious cDNA constructs DWV-L-GFP, DWV-S-GFP, and DWV-304 (GenBank accession number MG831200). **(B)** Alignment of the eGFP peptides generated in the honey bee pupae by the DWV 3C proteolytic cleavage of the polyproteins of DWV-S-GFP (27.97 kDa) and DWV-L-GFP (28.69 kDa), and free GFP control expressed in plants (26.93 kDa). Peptide recognized by polyclonal anti-GFP antibodies is underscored. Yellow highlight – parts the DWV LP-VP1 proteolytic cleavage peptide. Blue highlight – amino acid residues introduced by insertion of *Ascl* and *Bam*HI restriction sites.