

Table S4. Percent amino acid sequence identities of the partial sequence (116 aa) of the nuclear inclusion protein b (Nlb), between Wisteria vein mosaic virus (WVMV) isolate Bari (UXP87281) and 146 isolates representative of 143 species members of the genus *Potyvirus*. An isolate of ryegrass mosaic virus (RGMV, genus *Rymovirus*) was also included as an outgroup. Sequence identities are calculated based on pairwise MAFFT-based comparison. The analysis was performed using Sequence Demarcation Tool (SDT) software, version 1.2. All sequences are identified by their accession number and species name. Detailed information on individual isolates can be found in Table S1.

Sequence	Identity %
QLK02401 Wisteria vein mosaic virus	100.00
YP 842358 Wisteria vein mosaic virus	97.41
BDS00297 Wisteria vein mosaic virus	96.55
QLG97050 Wisteria vein mosaic virus	96.55
NP 734357 Bean common mosaic necrosis virus	93.97
YP 009667127 Paris mosaic necrosis virus	93.10
YP 009458616 Saffron latent virus	93.10
YP 004940327 Yambean mosaic virus	92.24
YP 077276 Watermelon mosaic virus	92.24
NP 734199 Soybean mosaic virus	92.24
BBJ70068 Uraria mosaic virus	92.24
YP 010086811 East Asian Passiflora distortion virus	91.38
YP 007001302 Blue squill virus A	91.38
AZF86246 Passiflora mottle virus	91.38
UOF93077 Passiflora chlorosis virus	91.38
YP 006395360 East Asian Passiflora virus	91.38
NP 734387 Cowpea aphidborne mosaic virus	90.52
NP 734191 Zucchini yellow mosaic virus	88.79
YP 004564597 Hardenbergia mosaic virus	88.79
YP 009255234 Impatiens flower break virus	88.79
YP 004063679 Passion fruit woodiness virus	88.79
YP 001974444 Fritillary virus Y	88.79
YP 001816834 Telosma mosaic virus	87.93
NP 734111 Dasheen mosaic virus	87.93
NP 734121 Bean common mosaic virus	87.07
YP 002321507 Zantedeschia mild mosaic virus	85.34
YP 006401488 Pepper severe mosaic virus	81.03
NP 734249 Potato virus Y	81.03
YP 009126869 Tamarillo leaf malformation virus	80.17
YP 004934107 Keunjong mosaic virus	80.17
NP 734416 Peanut mottle virus	80.00
YP 009509106 Daphne virus Y	79.31
YP 009252418 Tobacco mosqueado virus	79.31
NP 734091 Sorghum mosaic virus	78.45
YP 010086751 Gomphocarpus mosaic virus	78.45
YP 611119 Daphne mosaic virus	78.45
YP 009351881 Sunflower ring blotch virus	78.45
YP 001936186 Verbena virus Y	78.45
YP 008877631 Bidens mosaic virus	78.45
YP 010086860 Mashua virus Y	78.45
NP 734435 Pepper mottle virus	78.45
YP 006280739 Tomato necrotic stunt virus	78.45
NP 787945 Peru tomato mosaic virus	78.45
YP 006493342 Sweet potato virus G	78.45

Sequence	Identity %
NP 734347 Plum pox virus	78.45
YP 010087797 Noni mosaic virus	77.59
YP 003580192 Sunflower chlorotic mottle virus	77.59
YP 003902968 Brugmansia suaveolens mottle virus	77.59
NP 741976 Wild potato mosaic virus	77.59
YP 007354880 Brugmansia mosaic virus	77.59
YP 003778216 Pepper yellow mosaic virus	77.59
NP 734317 Sweet potato feathery mottle virus	77.59
YP 006438196 Sweet potato virus 2	77.59
NP 734131 Scallion mosaic virus	77.59
YP 022759 Yam mosaic virus	77.59
NP 734205 Tobacco etch virus	76.72
YP 009667145 Mediterranean ruda virus	76.72
NP 734377 Potato virus V	76.72
YP 004046678 Sweet potato virus C	76.72
NP 734221 Turnip mosaic virus	76.72
YP 009272678 Callistephus mottle virus	76.72
YP 008719796 Pokeweed mosaic virus	76.72
NP 734241 Papaya ringspot virus	76.72
YP 008992091 Zucchini tigre mosaic virus	76.72
YP 006423981 Celery mosaic virus	76.72
YP 009665149 Sunflower mosaic virus	75.86
NP 954627 Beet mosaic virus	75.86
YP 010087868 Begonia flower breaking virus	75.86
YP 009272820 Barbacena virus Y	75.86
YP 006522440 Arracacha mottle virus	75.86
NP 871736 Papaya leaf distortion mosaic virus	75.86
YP 009010966 Narcissus late season yellows virus	75.86
YP 009259520 Wild onion symptomless virus	75.86
YP 009305422 Euphorbia ringspot virus	75.86
YP 004123962 Apium virus Y	75.86
YP 006395347 Pennisetum mosaic virus	75.00
NP 734406 Johnsongrass mosaic virus	75.00
YP 003208059 Canna yellow streak virus	75.00
YP 331422 Shallot yellow stripe virus	75.00
YP 009353030 Endive necrotic mosaic virus	75.00
NP 734181 Bean yellow mosaic virus	75.00
NP 734171 Clover yellow vein virus	75.00
YP 009667098 Zucchini shoestring virus	75.00
YP 001552429 Moroccan watermelon mosaic virus	75.00
YP 009091824 Carrot thin leaf virus	75.00
YP 009665125 Carnation vein mottle virus	74.78
YP 010087867 Paris virus 1	74.78
YP 007872240 Sunflower mild mosaic virus	74.14
YP 009256204 Pecan mosaicassociated virus	74.14
YP 006906026 Zea mosaic virus	74.14
YP 006423955 Bidens mottle virus	74.14
YP 009666833 African eggplant mosaic virus	74.14
YP 002308563 Narcissus yellow stripe virus	74.14
YP 009407951 Sudan watermelon mosaic virus	74.14
NP 734161 Lettuce mosaic virus	74.14

Sequence	Identity %
YP 009221991 Jasmine virus T	74.14
NP 734101 Leek yellow stripe virus	74.14
YP 009110712 Asparagus virus 1	73.91
YP 007346986 Colombian datura virus	73.28
NP 734141 Sugarcane mosaic virus	73.28
YP 006390065 Hippeastrum mosaic virus	73.28
YP 001816854 Wild tomato mosaic virus	73.28
NP 945144 Lily mottle virus	73.28
YP 009665152 Tulip breaking virus	73.28
YP 001936195 Algerian watermelon mosaic virus	73.28
YP 001718530 Banana bract mosaic virus	73.28
NP 734231 Japanese yam mosaic virus	73.28
NP 734151 Maize dwarf mosaic virus	72.41
YP 007969892 Donkey orchid virus A	72.41
YP 006390075 Cyrtanthus elatus virus A	72.41
YP 001019196 Narcissus degeneration virus	72.41
YP 009143308 Catharanthus mosaic virus	72.41
YP 009466013 Hyacinth mosaic virus	72.41
YP 009552772 Pleione flower breaking virus	72.41
YP 006405412 Basella rugose mosaic virus	72.41
YP 002539450 Pepper veinal mottle virus	72.41
YP 006423993 Chilli ringspot virus	72.41
YP 001552420 Tobacco vein banding mosaic virus	72.41
YP 009667122 Tuberose mild mottle virus	72.41
YP 009665155 Watermelon leaf mottle virus	72.41
YP 007697620 Sweet potato latent virus	72.41
NP 734338 Tobacco vein mottling virus	72.41
YP 003725727 Panax virus Y	72.41
YP 009091808 Vanilla distortion mosaic virus	71.55
YP 009553508 Lily virus Y	71.55
YP 004123732 Lupinus mosaic virus	71.55
NP 982308 Chilli veinal mottle virus	71.55
YP 009388623 Cucurbit vein banding virus	71.55
YP 009162372 Lettuce Italian necrotic virus	71.55
YP 529498 Konjac mosaic virus	71.55
YP 010088117 Platycodon mild mottle virus	71.55
YP 254722 Thunberg fritillary mosaic virus	71.55
YP 009224125 Iris severe mosaic virus	70.69
YP 007001282 Ornithogalum mosaic virus	70.69
YP 010087165 Dioscorea mosaic virus	70.69
YP 007001291 Yam mild mosaic virus	69.83
YP 009407950 Wild melon vein banding virus	69.83
NP 734397 Cocksfoot streak virus	68.97
YP 009507673 Gloriosa stripe mosaic virus	68.97
NP 871746 Onion yellow dwarf virus	67.24
NP 734427 Pea seedborne mosaic virus	67.24
YP 010087632 Costus stripe mosaic virus	67.24
YP 010088127 Dendrobium chlorotic mosaic virus	67.24
YP 009667069 Iris mild mosaic virus	67.24
NP 734327 Ryegrass mosaic virus	66.96
YP 008320590 Habenaria mosaic virus	66.38

Sequence	Identity %
NP 734367 Potato virus A	63.79