SUPPLEMENTARY MATERIAL

Supplementary Figure 1

```
PDEF            ATGGCTCGCTCTGTGCCTTTGGTCTCAACCATCTTTGTGTTTCTTCTGCTACTGGTGGCC 60
Vr              ---------ATGGAGAGAAAAACTTTCAGCTTCTTGTTCTTGCTCCTTCTTGTCTTAGCC 51
96Nak           ---------ATGGAGAGAAAAACTTTCAGCTTCTTGTTCTTGCTCCTTCTTGTCTTAGCC 51
D1              ---------ATGGAGAGAAAAACTTTCAGCTTCTTGTTCTTGCTCCTTCTTGTCTTAGCC 51
95Nak           ---------ATGGAGAGAAAAACTTTCAGCTTCTTGTTCTTGCTCCTTCTTGTCTTAGCC 51
Cys             ---------ATGGAGAGAAAAACTTTCAGCTTCTTGTTCTCGCTCCTTCTCGTCTTAGCC 51
VuD1            ------------------------------------------------------------


PDEF            ACTGAGATGGGGCCAACAATGGTGGCAGAGGCAAGGACCTGTGAGTCTCAGAGCCACCGT 120
Vr              TCTGATGTGG---CCGTAGAGAGAGGAGAGGCTAGAACTTGTATGATAAAGAAAGAAGGG 108
96Nak           TCTGATGTGG---CTGTAGAGAGAGGAGAAGCTAAAACTTGTACGACAAAGAACGAAGAG 108
D1              TCTGATGTGG---CCGTAGAGAGAGGAGAGGCTAGAACTTGTATGATAAAGAAAGAAGGG 108
95Nak           TCTGATGTGG---CCGTAGAGAGAGGGGAGGCTAGAACTTGTATGATAAAGAAAGAAGGG 108
Cys             TCTGATGTGG---CCGTAGAGAGAGGAGAGGCTAGAACTTGTATGATAAAGAAAGAAGGG 108
VuD1            ---------------------------------AAGACTTGCGAGAACCTGGCGGATACA 27
                                                 *  ** **   *     *    *

PDEF            TTCAAGGGACCATGTGTGAGT---GACACCAACTGTGCTTCTGTTTGCCGAACTGAACGT 177
Vr              TGGG---GAAAATGCTTAATT---GACACCACCTGTGCACATTCGTGCAAGAACCGCGGT 162
96Nak           TGGGCAGGAAGATGCATAGATTATGAGGGCACGTGTCAAACATGGTGCAGGAACGGAGGT 168
D1              TGGG---GAAAATGCTTAATT---GACACCACCTGTGCACATTCGTGCAAGAACCGCGGT 162
95Nak           TGGG---GAAAATGCTTAATT---GACACCACCTGTGCACATTCGTGCAAGAACCGCGGT 162
Cys             TGGG---GAAAATGCTTAATT---GACACCACCTGTGCACATTCGTGCAAGAACCGCGGT 162
VuD1            TACAGGGGTCCGTGCTTCACCACTGGGAGCTGCGATGATCACTGCAAGAACAAAGAACAC 87
                *      *    **  *       *    *     *               *

PDEF            TTCAGCGGAGGACATTGCCGTGGCTTCCGTCGCAGATGCTTGTGCACCAAACACTGTTAA 237
Vr              TACATAGGTGGAAATTGCAAAGGCATGACGCGCACCTGCTATTGCCTCGTCAACTGTTGA 222
96Nak           TACCAAGGAGGCTGGTGCAGAGGCC---CGCGCTCCTGCTATTGCCTCGTCAACTGTTGA 225
D1              TACATAGGTGGAAATTGCAAAGGCATGACGCGCACCTGCTATTGCCTCGTCAACTGTTGA 222
95Nak           TACATAGGTGGAAATTGCAAAGGCATGACGCGCACCTGCTATTGCCTCGTCAACTGTTGA 222
Cys             TACATAGGTGGAGATTGCAAAGGCATGACGCGCACCTGCTATTGCCTCGTCAACTGTTGA 222
VuD1            TTGCTGAGTGGCAGGTGCAGGGATGATGTCCG---GTGTTGGTGCACCAGAAACTGTTAA 144
                *      * **    ***   *        **    ** *  ***  *    ****** *
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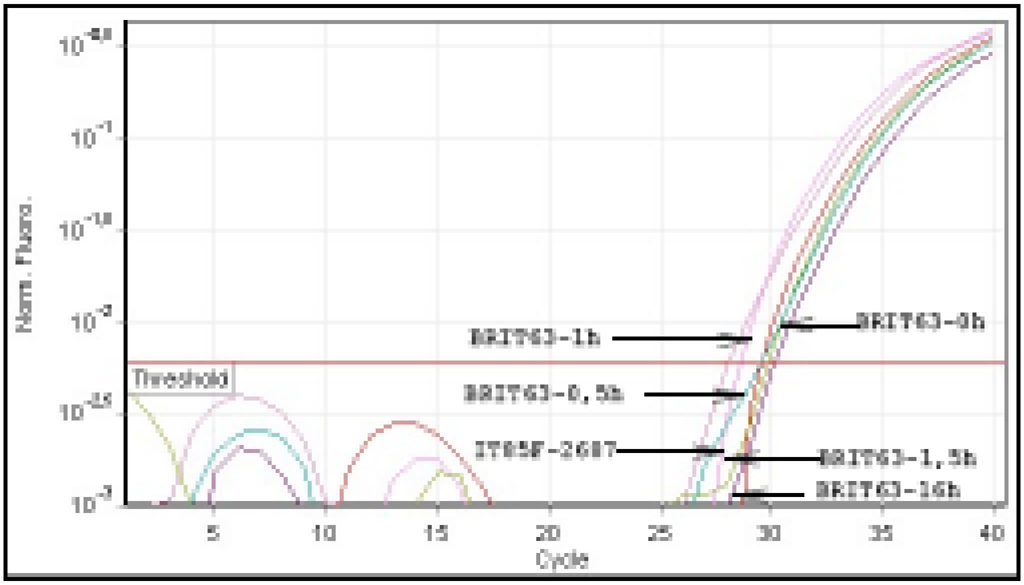
Supplementary Figure 1. *Vigna unguiculata* defensin DNA sequence compared with that of the other *Vigna* defensins obtained from databank. PDEF_VIGUN was compared with the other *V. unguiculata* defensins available in databases using Clustal W software. Among *V. unguiculata* defensins Cp-thionin I (P84920 GenBank), Cp-thionin II (P83399 GenBank) and VuD1 (FJ380052 GenBank), we compared PDEF_VIGUN with VuD1 partial cds because nucleotide sequences for Cp-thionin I and II are not present in databases. Only little similarity emerged (score 15) aligning PDEF_VIGUN with VuD1.
Moreover the analysis was extended to defensins belonging to other *Vigna* species as *V. radiata* and *V. nakashimae*. The highest similarity (score 55) was found between PDEF_VIGUN and: *V. radiata* "D1" (FJ591131 GenBAnk), *V. radiata* Cys-rich protein "VrCRP" (AF326687 GenBank), *V. radiata* "VrD1" (AY437639 GenBank) and *V. nakashimae* "Nak95" (AY856095 GenBank) and "Nak 96" (AY856096 GenBank).
These similarities are lower than those we found between *V. unguiculata* and plants belonging to other families, in particular *V. unguiculata* and *P. persica* (score 77) and *V. unguiculata* and *G. max* (score 91).

Supplementary Figure 2

A



B

Sample	Color	Harvest time after virus inoculation (h)	Average Ct	Expression [(2^-ΔΔCt)*(10^9)]
IT85F-2687		0*	29.63	1.204
BRIT63		0*	30.17	0.828
		0.5	28.61	2.441
		1.0	28.07	3.549
		1.5	29.90	0.998
		16.0	29.56	1.263

*Controls, plants not harvested with CPSMV

Supplementary Figure 2. A) Plant defensin expression in *Vigna unguiculata* after wounding and CPSMV inoculation. BRIT63 is a unique CPSMV (cowpea severe mosaic virus) resistant genotype derived from a breeding cross (BR14-Mulato x IT85F-2687), while IT85F is the CPSMV-susceptible parental cultivar sample. Negative controls consisted in one BRIT63 and one IT85F sample both not harvested with CPSMV. Threshold Cycle (Ct) values inversely correlate with the quantity of mRNA expression. The mRNA expression appears to be fast and strong during the first 30 min after inoculation (BRIT63-0,5h) and response increases for the following 30 min (BRIT63-1h).
B) In the table, results for *Vigna* RT-QPCR for defensin transcript detection, after CPSMV inoculation are reported.