

An Immunochromatographic Test Strip and its application in rapid screening of Pepper mild mottle virus

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Supporting

Table S1. Primers involved in the experiment

Virus ^a	Primer ^b	Sequence 5'-3' ^c	Amplicon size (bp)
TMV	TMV-F	GTTCTTGTCATCAGCGTGGG	444
	TMV-R	CAAGTTGCAGGACCAGAGGT	
ToBRFV	ToBRFV-F	ATGTCTTACACAATCGCAACTC	460
	ToBRFV-R	CCATTGTAAACCGGATGCAC	
TMGMV	TMGMV-F	CAAATGCATTGGGTAACCAG	370
	TMGMV-R	TGTGGTCCAGACAAGTCCAC	
CGMMV	CGMMV-F	CGTGGTAAGCGGCATTCTAAACCTC	654
	CGMMV-R	CCGCAAACCAATGAGCAAACCG	
PMMoV	PMMoV CP-F	CCAGTGCCAATCAATTAGTG	450
	PMMoV CP-R	AGTTGTAGCCCAGGTGAGTC	

^a TMV=Tobacco mosaic virus, ToBRFV=Tomato brown rugose fruit virus, TMGMV=Tobacco mild green mosaic virus, CGMMV=cucumber green mottle mosaic virus, PMMoV=Pepper mild mottle virus.

^b F=forward primer, R=reverse primer.

^c Primers were designed independently based on Genebank accession numbers.

Table S2. Effect of different parameters on the test strip results.

Optimization factor		healthy leaves ^a	diseased leaves ^a
Nitrocellulose membrane	CN140	-	+++
	JN140	-	+
	Pall120	-	+++
	Pall170	-	++
	FF120	-	++
T-line concentration	2 mg/ml	-	+
	2.5 mg/ml	-	+
	3 mg/ml	-	+++
	3.5 mg/ml	+	+++
	4 mg/ml	+	++++
Tween-20 (%)	0.1	-	++
	0.2	-	++
	0.3	-	+++
	0.4	-	+++
	0.5	-	+++

“+” represents the color depth of the test strip detection line; “++++” indicates the darkest color of the detected line; “+++” is darker than “++”; “++” is darker than “+”; “-” represents no color.

^a, the size of the leaf was approximately 2×2 cm.

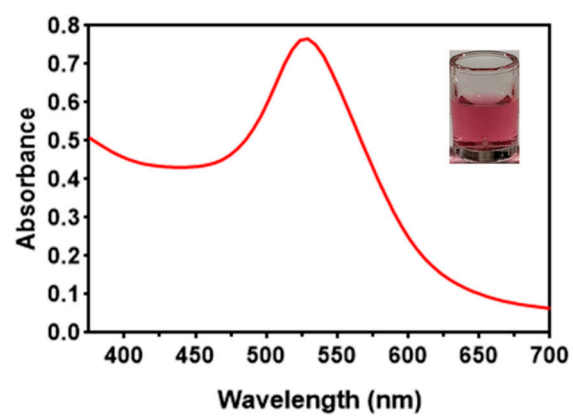


Figure S1. Color characterization and absorption peak determination of colloidal gold..It showed a wine-red color with a maximum absorption peak at approximately 528 nm.

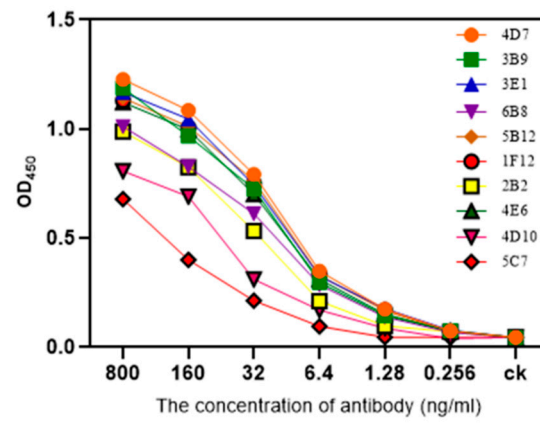


Figure S2. Determination of titer of mAbs by indirect ELISA.(the coat protein immobilized on ELISA plates)

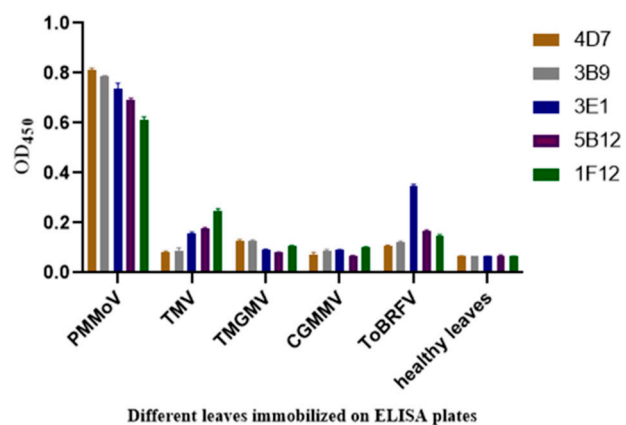


Figure S3. Specificity detection of different antibodies.