

TABLE S1. HOST DEFENSE PEPTIDES AND IN PLANTA STUDIES							
Disease	Target	Peptide name	Sequence	Source	Plant tested on	Effectiveness	Concerns Ref
Gray mold	<i>Botrytis cinerea</i>	NCR044	MQRVKNMTETLKFVYILILFIFLVL MVCDSAFIQLSKPCISDKECSIVKNYRARCRKGYCVRRRIR	<i>Medicago truncatula</i> (Barreclover)	Tomato germlings  Tomato, tobacco and lettuce leaves  Rose petals	Inhibition of spore germination  Reduction of disease severity  Post-harvest protection	[59]
		<i>Aspergillus</i> AFP	ATYNGKCYKKDNICKYKAQSGKTAICKCYVKKCPRDGAKCEFDSYKGKCYC	<i>Aspergillus Giganteus</i>	Geranium leaves	Additive effect when combined with Cecropin A	[60]
		PeAfpA	[95 amino acid sequence]	<i>Penicillium expansum</i>	Tomato leaves	Prevention of infection	[61]
		Synthetic cationic lipopeptide	C <sub>14</sub> -KL- <i>I</i> -K-NH <sub>2</sub> ( <i>I</i> = <i>L</i> -leucine)	Designed de novo	Cucumber leaves and fruits and corn seeds	Avoidance of necrotic lesions	[64]
		Synthetic amphipathic helical peptides	Ac-WKX <sub>16</sub> *	Designed de novo	Arabidopsis Thaliana	Prevention of infection	[63]
Bacterial soft rot	<i>Pectobacterium carotovorum</i> subsp. <i>carotovorum</i>	Synthetic amphipathic helical peptides	Ac-WKX <sub>16</sub> *	Designed de novo	<i>Arabidopsis Thaliana</i>	Prevention of infection	[63]
Fire blight	<i>Erwinia Amylovora</i>	ZM-804	LARLRRRLCFLWAAAWPWPWR	<i>Zea mays</i> (Corn)	Tobacco leaves	Prevention of hypersensitive response	[58]
		BP100	KKLFFKKILKYL-NH <sub>2</sub>	Ubiquitous	Fruit trees leaves	Disease severity reduced when combined with lysozyme, but degraded by plant proteases when applied alone	[66]

Mixtures of peptides BP100:BP100-RW, BP100:CA-M and BP100-RW:CA-M						
					Fruit trees and tobacco leaves	Mixtures gave better results than peptides alone: Disease severity reduction, reduction of bacterial growth and no hypersensitive response.
						[68]
Tomato early blight	<i>Alternaria solani</i>	WAMP-G2	CCGKYGFCGSGDAYC	Wheat	Tomato	Synergistic effect with Folicur® [70] [71]
Tomato wilt	<i>Fusarium oxysporum</i>	WAMP-C	GKGSCQSQCRCR	Wheat	Tomato	Synergistic effect with Folicur® [70] [71]

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<i>Pseudomonas syringae</i>		Synthetic cationic lipopeptide	C <sub>14</sub> -KL-/K-NH <sub>2</sub> (I = L-leucine)	Designed de novo	Tobacco leaves	Prevention of hypersensitive response		[64]
		ZM-804	LARLRRLCFLWAAAWPWPWR	Zea mays (Corn)	Tobacco leaves	Prevention of hypersensitive response		[58]
					Tomato leaves	Prevention of infection		[58]
Bacterial wilt	<i>Ralstonia solanacearum</i>	ZM-804	LARLRRLCFLWAAAWPWPWR	Zea mays (Corn)	Tobacco leaves	Prevention of hypersensitive response		[58]
		Hcm1	Hybrid of Hpa1 from <i>Xanthomonas oryzae</i> , cecropin A and melitin		Tomato plants	Reduction of severity		[73]
Rice blast	<i>Magnaporthe oryzae</i>	Hcm1	Hybrid of Hpa1 from <i>Xanthomonas oryzae</i> , cecropin A and melitin		Rice leaves	Reduction of severity		[73]
Tobacco mosaic	Tobacco mosaic virus	Hcm1	Hybrid of Hpa1 from <i>Xanthomonas oryzae</i> , cecropin A and melitin		Tobacco leaves	Reduction of severity		[73]
Citrus canker	<i>Xanthomonas axonopodis</i> pv <i>citri</i>	P5VP5	Ac-RLIRKVKRILR-NH <sub>2</sub>	Designed de novo	Citrus leaves	Reduction of severity		[65]
	<i>Xanthomonas campestris</i> pv. <i>campestris</i>	Random peptide mixtures	(F/K/L-K) <sub>20</sub> **	Designed de novo	Kohlrabi	Reduction of severity		[69]
	<i>Xanthomonas perforans</i>	Random peptide mixtures	(F/K/L-K) <sub>20</sub> **	Designed de novo	Tomato	Reduction of severity		[69]
	<i>Xanthomonas citri</i>	Hylin-a1	IFGAILPLALGALKNLIK	<i>Hypsiboas albopunctatus</i>	Grafted citrus tree leaves	Removal of canker symptoms	Hemolytic activity	[57]
		K0-W6-Hy-a1	KIFGAIWPLALGALKNLIK	Analogue of Hylin-a1	Grafted citrus tree leaves	Removal of canker symptoms	Hemolytic activity	[57]
		Tritrpticin	VRRFPWWWPFLRR	Porcine cathelicidin	Grafted citrus tree leaves	Reduction of disease severity and bacterial growth		[57]
		Ocellatin4-analogue	KLLKFVTKVGKAIFKALIKAI	Analogue of Ocellatin 4 ( <i>Leptodatylos ocellatus</i> )	Grafted citrus tree leaves	Removal of canker symptoms	Hemolytic activity	[57]
		Citrus-amp1	IETFLKQLRSAANKIVGL	<i>Citrus sinensis</i>	Grafted citrus tree leaves	Reduction of disease severity and bacterial growth		[57]
		Citrus-amp2	LESLASSAVRTANKARAKL	<i>Citrus aurantium</i>	Grafted citrus tree leaves	Ineffective		[57]

Disease	Target	Peptide name	Sequence	Source	Plant tested on	Effectiveness	Concerns	Ref
Green mold	<i>Penicillium digitatum</i>	PeAfpA	[95 amino acid sequence]	Penicillium expansum	Fruits	Post-harvest protection		[61]
		LfcinB20-25	Ac-RRWQWR-NH <sub>2</sub>	Bovine lactoferricin	Mandarine fruits	Post-harvest protection		[62]
		LfcinB17-31	Ac-FKCRRWQW RMKKLGA-NH <sub>2</sub>	Bovine lactoferricin	Mandarine fruits	Post-harvest protection		[62]
		BP21-Cecropin A-melittin hybrid peptide			Citrus fruits	Post-harvest protection	Hemolytic activity	[72]
Blue mold	<i>Penicillium italicum</i>	BP21-Cecropin A-melittin hybrid peptide			Citrus fruits	Post-harvest protection	Hemolytic activity	[72]
Sour rot	<i>Geotrichum candidum</i>	BP21-Cecropin A-melittin hybrid peptide			Citrus fruits	Post-harvest protection	Hemolytic activity	[72]

\*Amphipathic helical peptides, presenting different spatial distributions of the positive charges. X = K or L

\*\*Random mixture of 20-mer peptides generated by random combination of *L*-phenylalanine and *L*- or *D*-lysine