

Supplementary Material

Antibacterial and antiviral properties of Chenopodin-derived synthetic peptides

Table S1: Prediction of the antimicrobial activity of Chenopodin-derived peptides using Ampfun software.

ID	AMP	Antiparasitic	Antiviral	Anticancer	Targeting mammals	Antifugal	Gram + bacteria	Gram - bacteria
Chen1	0.9633	0.1182	0.625	0.1581	0.0667	0.4678	0.675	0.5362
Chen2	0.997	0.0545	0.5833	0.1925	0.0667	0.7167	0.8083	0.6232
ChenR	0.9884	0.1	0.5667	0.1648	0.1	0.5763	0.7583	0.5362
ChenW	0.9829	0.0636	0.5917	0.1058	0.0667	0.3664	0.6833	0.7213

Table S2: Prediction of the antimicrobial activity of Chenopodin-derived peptides by AMP Scanner (www.ampscanner.com.) software.

ID	Predicted Class	Prediction Probability*
Chen1	Non-AMP	0.1207
Chen2	AMP	0.9718
ChenR	AMP	0.9358
ChenW	AMP	0.9872

*> 0.5 = Predicted AMP

Table S3: Prediction of the haemotoxicity of peptides derived from Chenopodin protein by HAPPENN.

ID	Predicted probability
Chen1	0.007
Chen2	0.003
ChenR	0.004
ChenW	0.010

Table S4: Prediction of the haemotoxicity of Chenopodin-derived peptides by Hlppred-fuse.

ID	High or low	Predicted probability of High
Chen1	Low	0.341666666667
Chen2	Low	0.384375
ChenR	Low	0.384375

ChenW	High	0.539583333333
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Table S5: Prediction of the haemotoxicity of Chenopodin-derived peptides by HemoPred.

ID	Status
Chen1	Non-hemolytic
Chen2	Hemolytic
ChenR	Non-hemolytic
ChenW	Non-hemolytic

Table S6: Prediction of the potential antiviral effect of Chenopodin-derived peptides by AI4AVP.

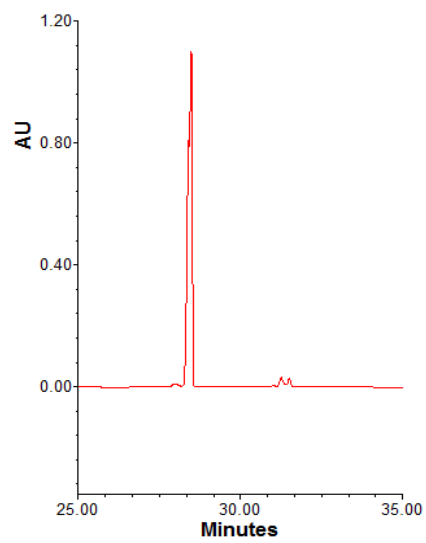
ID	Score	Prediction Results*
Chen1	0.981	YES
Chen2	0.918	YES
ChenR	0.991	YES
ChenW	0.996	YES

*Yes: Peptide is classified as an antiviral peptide.

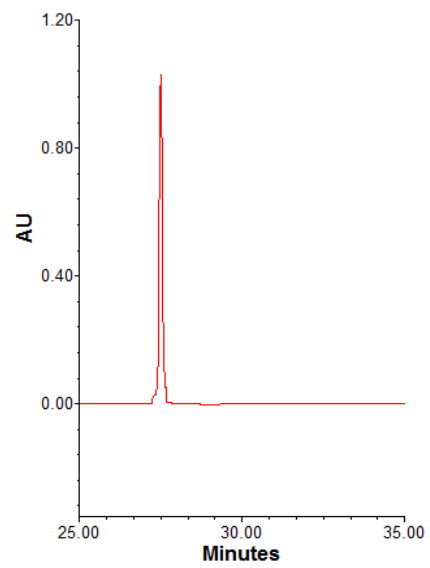
Table S7: Prediction of the secondary structure of Chenopodin-derived peptides by PED2D.

ID	Secondary Structure	Helix %age(H)	Sheet %age(E)	Coil %age(C)
Chen1	CCCCCCCCCEEHCCC	7.14	14.29	78.57
Chen2	CCEECECECCCCC	0.00	35.71	64.29
ChenR	CCCCCCCCCEECCCC	0.00	14.29	85.71
ChenW	CCCCCCCCEEEECEC	0.00	35.71	64.29

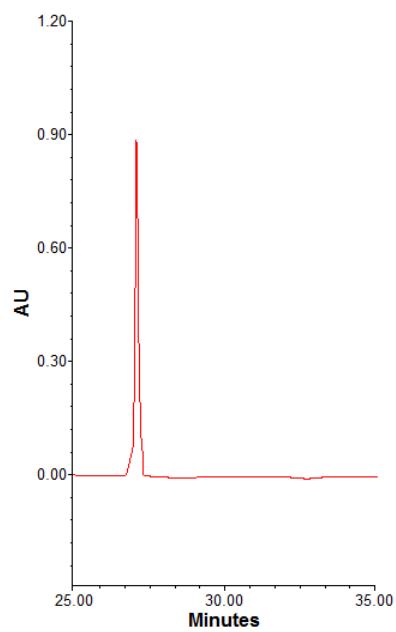
(a)



(b)



(c)



(d)

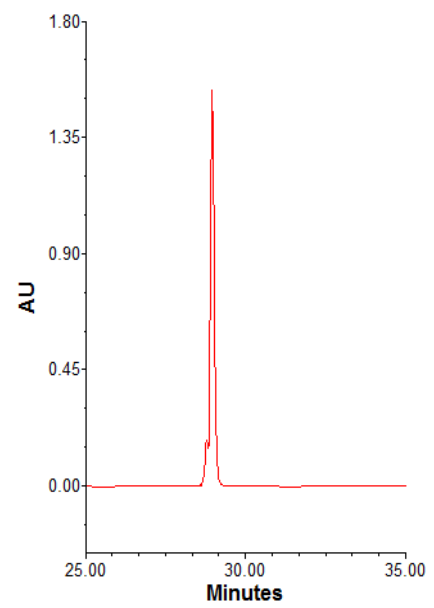


Figure S1: RP-HPLC chromatograms of Chenopodin-derived peptides. Purified synthetic peptides (a) Chen1, (b) Chen2, (c) ChenR and (d) ChenW elute between 26 and 29 min.