Supplement data

Table S1. Kinetic parameters of protease activity inhibition by active peptides

Protease	Peptide	Interaction	Concentration (μM)	K_m (mM)	V_{max} (hr./mM)
ACE	LY-5	Non-competitive	No inhibitor	0.298	0.127
			10	0.318	0.083
			25	0.254	0.051
	NY-7	Competitive	No inhibitor	0.529	0.379
			2	1.017	0.447
			3	1.000	0.395
DPP-IV	LY-5	Competitive	No inhibitor	0.654	0.368
			1.67	0.989	0.342
			3.33	1.681	0.376
	NY-7	Non-competitive	No inhibitor	0.46	0.248
			2	0.54	0.282
			9	0.46	0.211

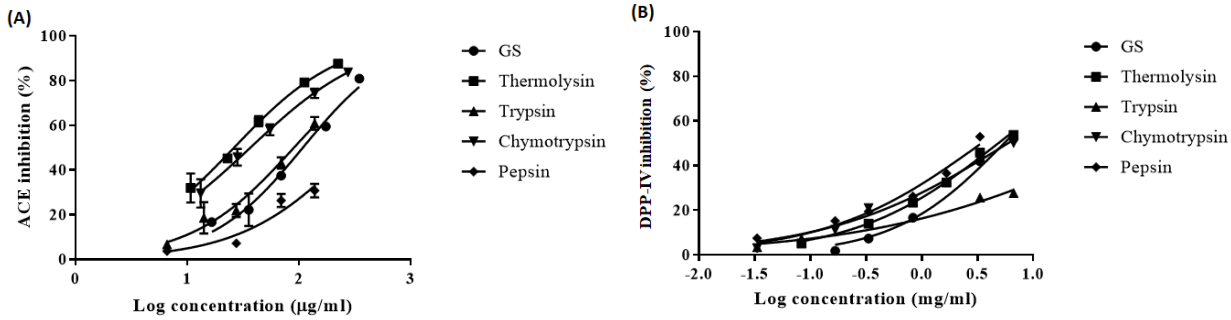


Figure S1. The inhibitory activities of enzymatic hydrolysates on (A) ACE and (B) DPP-IV enzyme

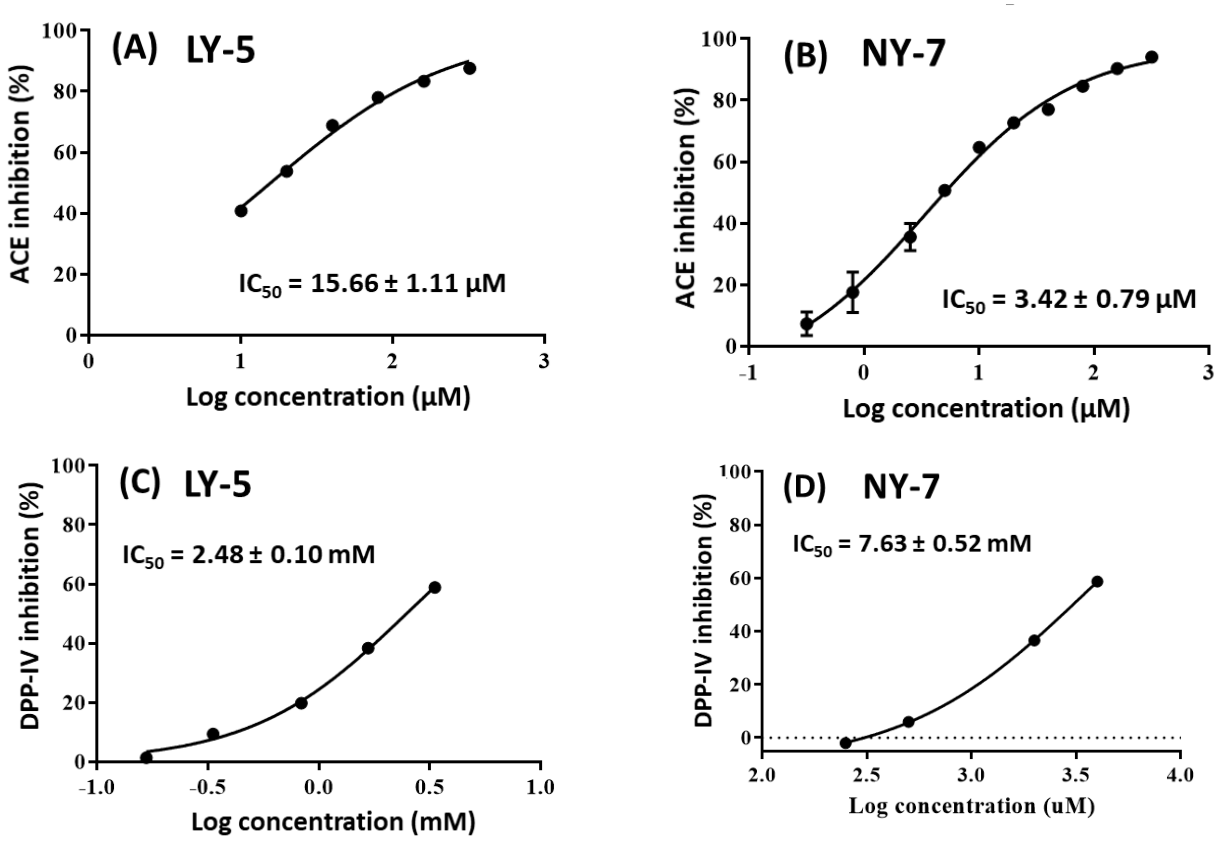
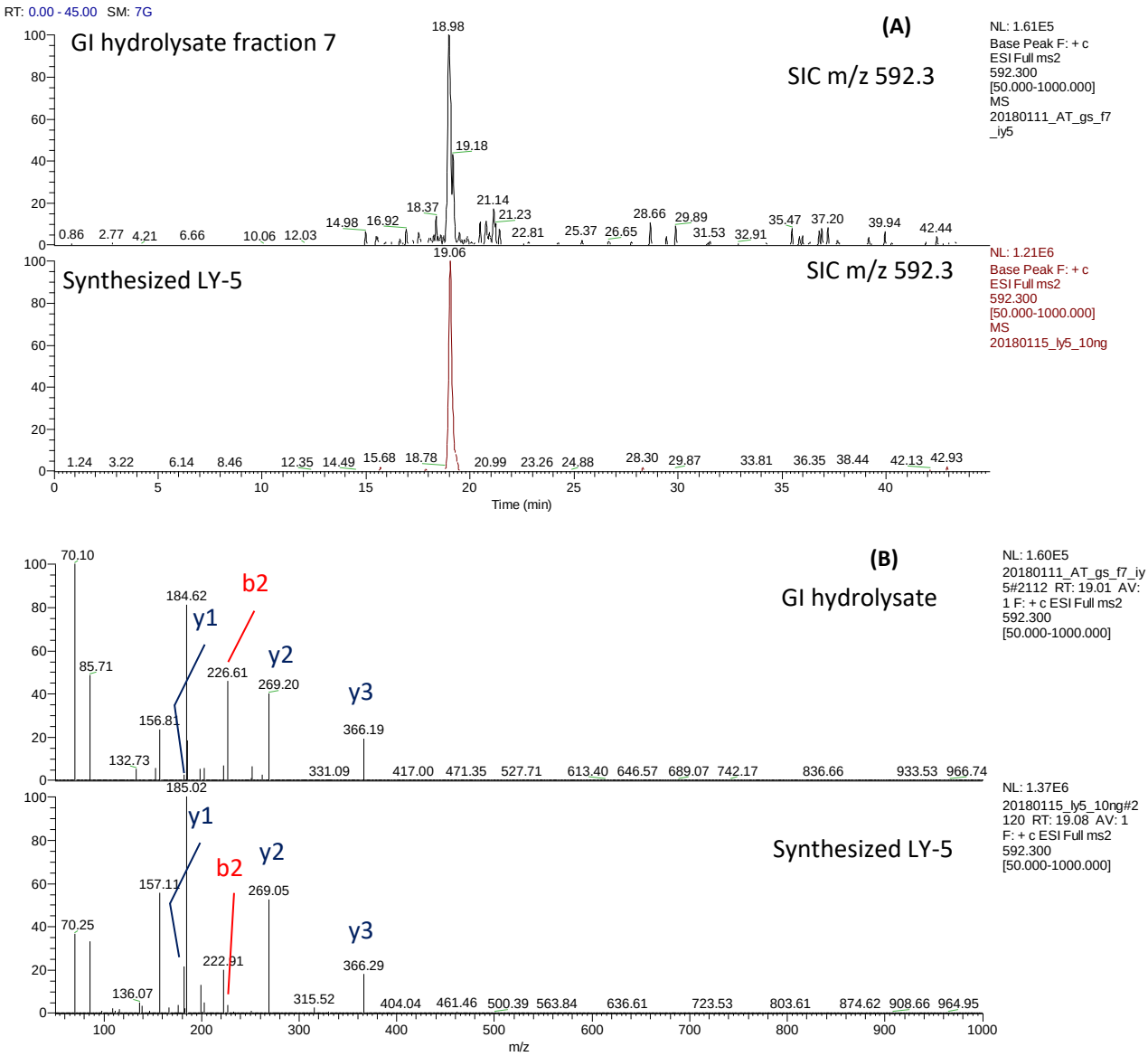


Figure S2. The IC_{50} values of (A) LY-5 and (B) NY-7 on ACE activity; the IC_{50} values of (C) LY-5 and (D) NY-7 on DPP-IV activity.



13

14 **Figure S3.** Validation of identified peptide LY-5 with the synthetic peptide. (A) Selected ion

15 chromatograms of GI hydrolyzate and synthetic peptide LY-5; (B) MS/MS spectra of LY-5

16 in GI hydrolysate fraction 7 and synthetic peptide LY-5 (MS/MS of m/z 592.3).

17

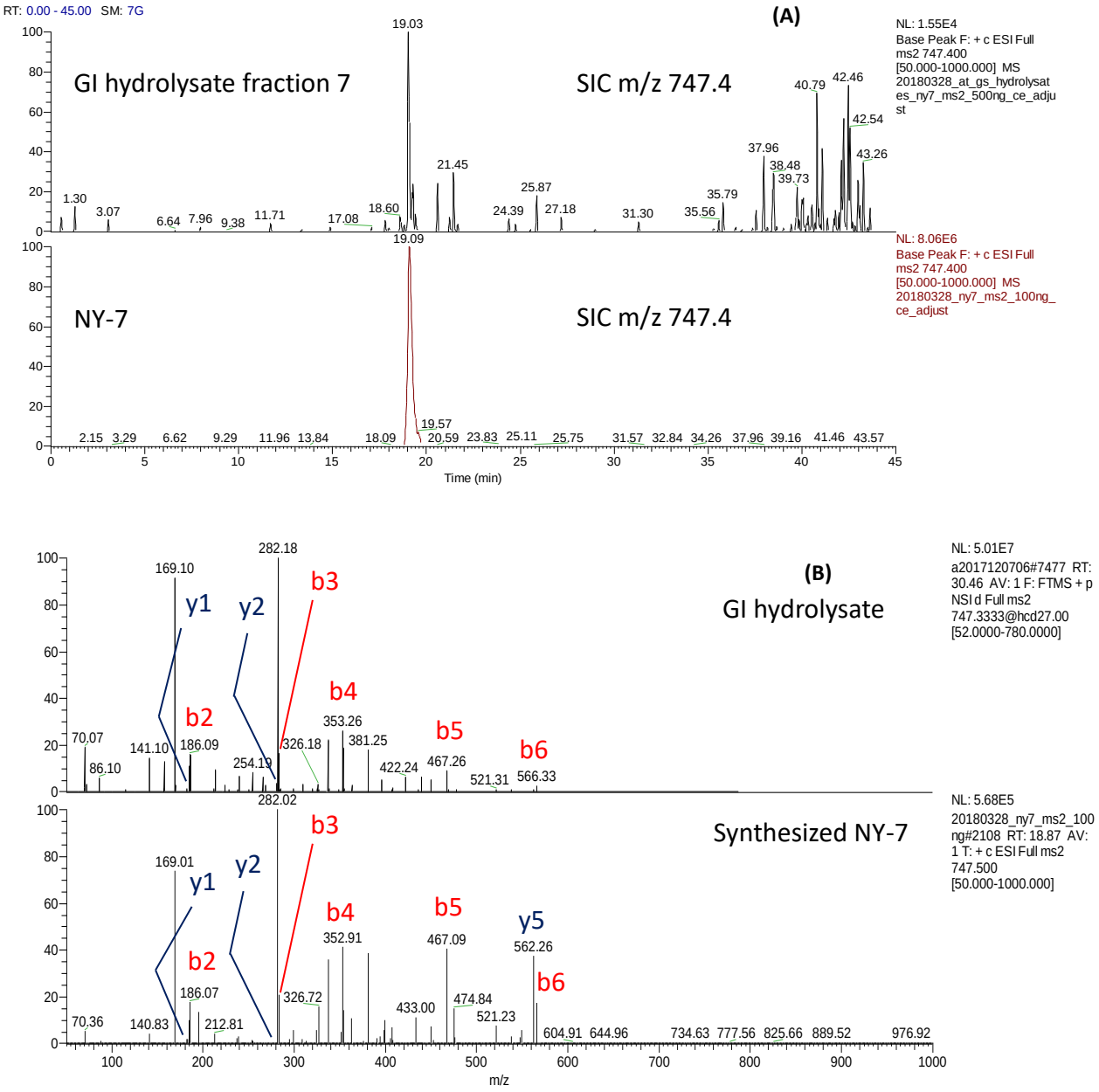
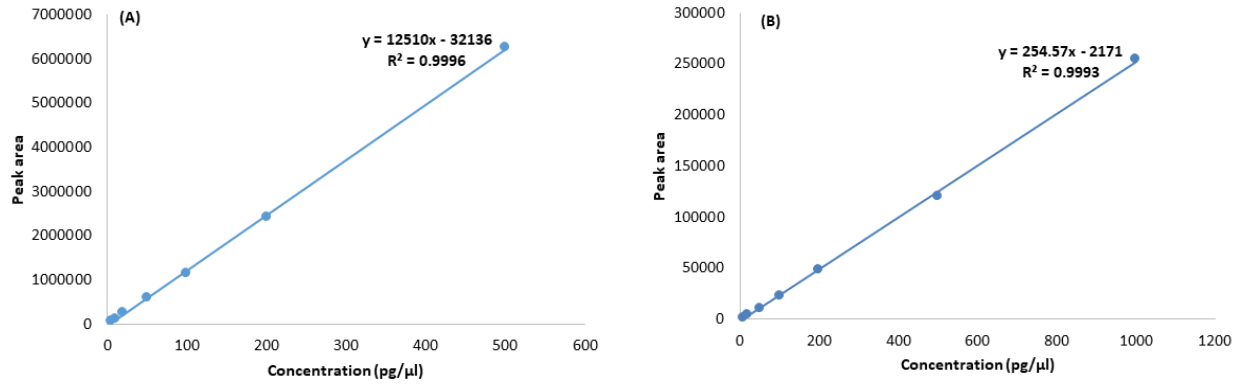


Figure S4. Verification of identified peptide NY-7 using the synthetic NY-7. (A) Selected ion chromatograms of GI hydrolysate fraction 7 and the synthetic peptide NY-7; (B) MS/MS spectra of the ion m/z 747.4 in GI hydrolysate fraction 7 and the synthetic peptide NY-7.



26

27 **Figure S5.** Calibration curves of (A) LY-5 and (B) NY-7

28

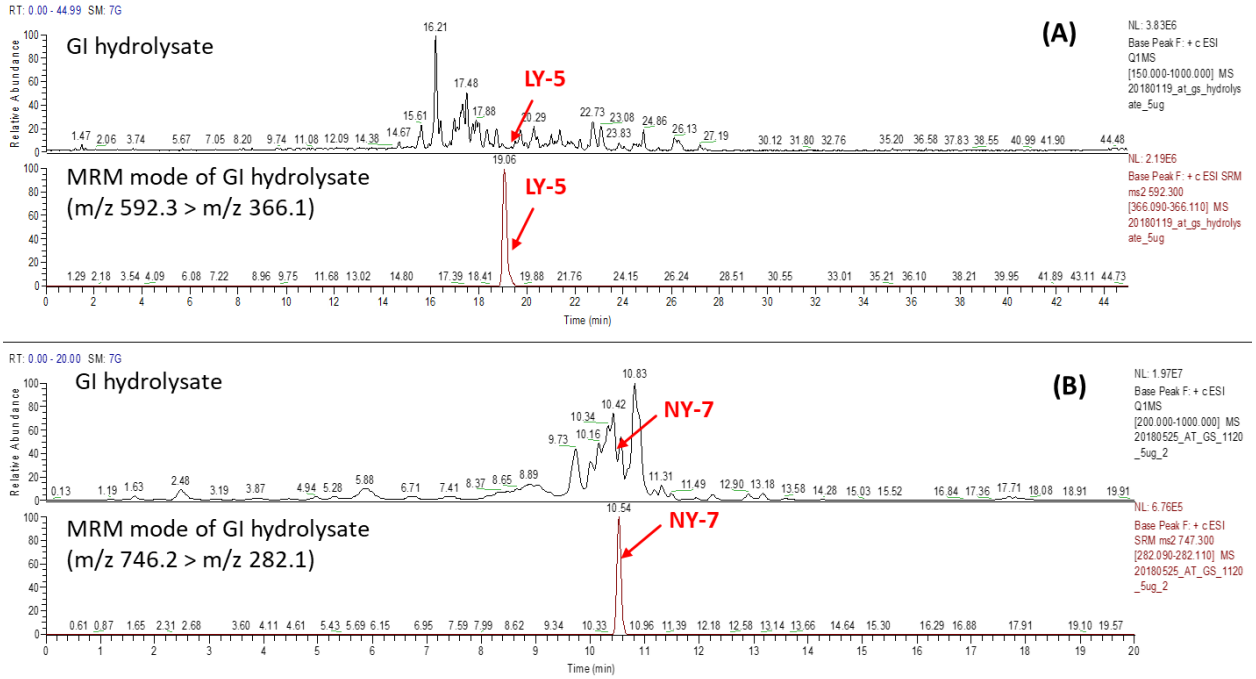


Figure S6. Quantitative analysis of (A) LY-5 and (B) NY-7 in *A. tuberosum* protein hydrolysate