

Supplementary data:

Table S1. Bio-peptides collected from BIOPEP database and other publications

ID no.	Peptide sequence	GRAVY	Mw	Ref.
Oxidation of linoleic acid				
3296	HHP	-2.67	389.40	[1]
3297	YHH	-2.57	455.45	
3298	HHPL	-1.05	502.56	
3299	LHPH	-1.05	502.56	
3300	PHH	-2.67	389.40	
3301	HLH	-0.87	405.44	
3302	LHH	-0.87	405.44	
3303	HPLH	-1.05	502.56	
3304	LLPHHH	-0.60	752.86	
3305	LH	0.30	268.30	
3306	HPhL	-1.05	502.56	
3307	PYY	-1.40	441.46	
3308	HHLP	-1.05	502.56	
3309	LPYY	-0.10	554.62	
3310	LYPY	-0.10	554.62	
3311	HPH	-2.67	389.40	
3312	LLHH	0.30	518.60	
3313	PLHH	-1.05	502.56	
3314	LLPH	0.70	478.58	
3315	HLHP	-1.05	502.56	
3316	HLPH	-1.05	502.56	
3317	HL	0.30	268.30	
3318	LPHH	-1.05	502.56	[2]
3319	HH	-3.20	292.28	
3320	HHPLL	-0.08	615.72	
3809	LQSGDALRVPSGTTY	-0.37	1727.8	
3810	MQFHT	-0.54	662.75	
3811	PHCKRM	-1.47	787.82	[3]
3826	LVNPHDHQN	-1.56	1073.1	
7867	GY	-1.00	401.39	
7945	YY	-1.30	507.51	[4]
7946	YYG	-1.00	401.39	
7967	YGY	-1.00	401.39	[5]
8253	LEELEELEGCE	-0.92	1438.30	
8282	ISELGW	0.45	703.78	[6]
8433	FLKPLFNAALKLLP	0.98	1585.00	[7]
8439	YLMSR	-0.18	668.80	[8]
8440	VLYEE	-0.06	651.70	
8441	MILMR	1.52	662.90	

8950	WCTSVS	0.58	698.61	[9]
8955	PYSFK	-0.96	640.72	[10]
8956	GFGPGL	0.63	546.61	
8957	VGGRP	-0.54	484.54	
9370	VKRRGQDCIHGFCSD	-0.78	1754.66	[11]
9371	GQFNDKRWIPFG	-1.01	1464.63	
9372	APIRMWYMYRKLTDMEPKPVA	-0.52	2597.14	
9450	LTEQESGVPVMK	-0.32	1317.52	[12]
Thiobarbituric acid reactive substances				
8463	VPKNYFHDIV	-0.13	1231.40	[13]
8464	LVMFLDNQHRVIRH	-0.05	1778.11	
8465	FVNQPYLLYSVHMK	0.11	1739.05	
9130	VAWRNRCKGTD	-1.22	1322.33	[14]
9131	WRNRCKGTD	-2.16	1152.11	
9132	AWIRGCRL	0.29	991.04	
9133	WIRGCRL	0.07	919.96	
9134	IRGCRL	0.23	733.75	
Oxidation in liposomes				
8480	YPELF	0.04	667.74	[15]
β-carotene - linoleate bleaching (BCB)				
9381	LTTLDSE	-0.23	777.82	[16]
9382	VVGGDGDV	0.55	716.73	
Oxidation of the liver				
945	CERPTCCEHS	-1.03	1214.86	[17]
Oxidation of linoleic acid				
	AVPYPQR	-0.93	829.94	[18]
	WPP	-1.37	398.46	[19]
	LW	1.45	317.38	[20]
	FD	-0.35	280.27	
	WL	1.45	317.38	
	WV	1.65	303.36	
	YLGAK	0.00	550.65	[21]
	GFR	-0.70	378.43	[22]
	GPCSR	-0.96	518.59	
	CFCTKPC	0.59	801.01	
	MCESASSK	-0.45	841.94	
	RGY	-2.07	394.43	[23]
	WIR	-0.30	473.58	
	VAW	1.70	374.44	

YGS	-0.83	325.32	[24]
WYGPD	-1.54	636.66	[25]
KLSDW	-1.06	647.72	
WEGPK	-2.06	615.69	[26]
LTEQESGVPVMK	-0.32	1317.51	[12]
YP	-1.45	278.30	[27]
YPPAK	-1.32	574.67	[28]
LNLPTAVYMT	1.08	1221.46	[29]
HLFGPPGKKDPV	-0.78	1291.50	[30]
KHNRGDEF	-2.46	1002.05	[31]
NADFGLNGLGLELA	0.20	1290.37	[32]
NGLEGLK	-0.59	729.82	
LPHSGY	-0.58	672.73	[33]

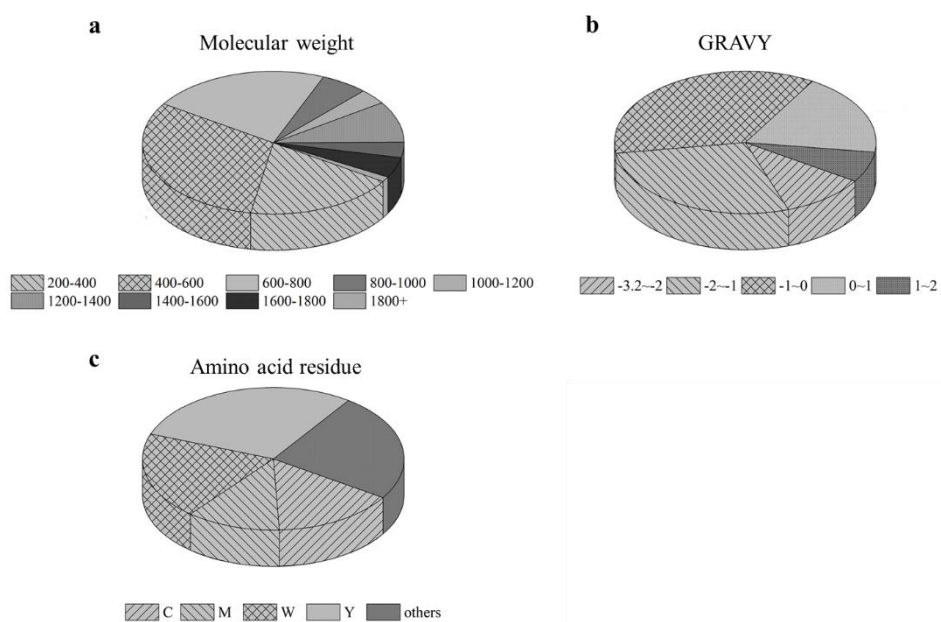


Figure S1. Analysis of the bio-peptides harvested from BIOPEP database and other publications

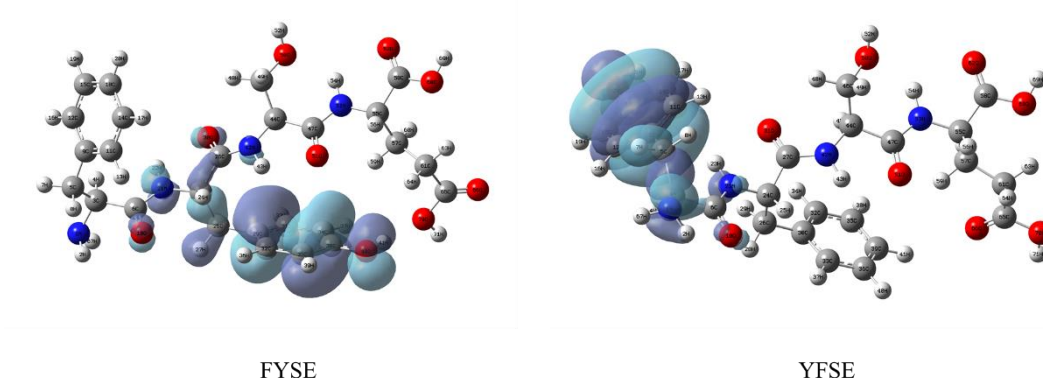


Figure S2. The highest occupied molecular orbital (HOMO) of FYSE and YFSE

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