



Figure S1. The antioxidant activity of blue whiting (*Micromesistius poutassou*) soluble protein hydrolysates (BWSPH) (1.5-4 mg/mL) on 2,2-diphenyl-2-picryl-hydrazyl (DPPH) free radicals. Data are expressed as the mean \pm SEM of three independent experiments

Table S1. The effects of blue whiting (*Micromesistius poutassou*) soluble protein hydrolysates (BWSPH) on the viability of murine RAW264.7 cells

Volume added to cells (% w/v dry weight)	Cell viability (%)					
	BW-SPH-A	BW-SPH-B	BW-SPH-C	BW-SPH-D	BW-SPH-E	BW-SPH-F
0	100 \pm 0.0	100 \pm 0.0	100 \pm 0.0	100 \pm 0.0	100 \pm 0.0	100 \pm 0.0
0.05	126.9 \pm 9.4*	124.5 \pm 4.6	114.7 \pm 8.2	101.2 \pm 9.4	120.9 \pm 12.3	125.3 \pm 15.1
0.1	122.6 \pm 7.3	126.1 \pm 6.0	105.4 \pm 5.8	92.4 \pm 7.3	109.2 \pm 17.0	119.1 \pm 20.2
0.25	125 \pm 4.2	113.7 \pm 1.0	93.7 \pm 7.6	84.2 \pm 4.2	99.5 \pm 3.0	106.6 \pm 3.4
0.5	117.3 \pm 6.5	103.5 \pm 8.4	83 \pm 14.6	80.6 \pm 6.5	84.6 \pm 6.2	106.6 \pm 3.6
0.75	105.9 \pm 9.1	98.7 \pm 14.0	89.7 \pm 15.9	76.7 \pm 9.1	77.1 \pm 4.0	90.7 \pm 6.5
0.9	93 \pm 6.6	86.5 \pm 12.2	84.4 \pm 14.6	70.9 \pm 6.6*	75.1 \pm 6.8	84.1 \pm 4.6
1.0	93.2 \pm 8.0	79.8 \pm 5.4	71.1 \pm 6.8	71.2 \pm 8.0	66.8 \pm 4.5*	84.7 \pm 2.4

Murine RAW264.7 cells (1×10^5 cells/ mL, 200 μ L/well) were supplemented with increasing concentrations (0-1.0%, (w/v dry weight)) of BWSPH (BW-SPH-A – BW-SPH-F) for 24 h. Cell viability was determined by the MTT assay and expressed as a percentage of the control, DMEM only (100% cell viability). Data are expressed as the mean \pm SEM of three independent experiments. Statistical analysis by ANOVA followed by Dunnett's test. * denotes statistically significant difference between sample and control ($p < 0.05$).

Table S2. The effects of simulated gastrointestinal digested (SGID) blue whiting (*Micromesistius poutassou*) soluble protein hydrolysates (BWSPH) on the viability of murine RAW264.7 cells

Volume added to cells (% w/v dry weight)	Cell viability (%)					
	BW-SPH-A-GI	BW-SPH-B-GI	BW-SPH-C-GI	BW-SPH-D-GI	BW-SPH-E-GI	BW-SPH-F-GI
0	100.0 \pm 0.0	100 \pm 0.0	100 \pm 0.0	100 \pm 0.0	100 \pm 0.0	100 \pm 0.0
0.05	90.6 \pm 4.7	100.9 \pm 3.2	101 \pm 4.4	101.5 \pm 6.0	98.1 \pm 5.7	96.8 \pm 7.7
0.1	90.4 \pm 4.1	106.3 \pm 0.8	107.9 \pm 4.6	104.9 \pm 5.3	103.5 \pm 6.1	96.4 \pm 6.1
0.25	99.1 \pm 6.1	106.8 \pm 1.0	104.6 \pm 1.6	106.8 \pm 5.9	102.5 \pm 2.8	98.3 \pm 6.0
0.5	93.8 \pm 8.6	108.9 \pm 2.7	109.8 \pm 4.1	98.3 \pm 3.7	97.7 \pm 4.0	99.1 \pm 6.3
0.75	91.7 \pm 8.7	100.7 \pm 1.4	104.6 \pm 1.1	103.7 \pm 6.2	100.7 \pm 8.5	99.1 \pm 4.7
0.9	86.4 \pm 6.9	102.2 \pm 3.9	103.6 \pm 3.0	103.9 \pm 7.4	91 \pm 6.6	89.5 \pm 5.1
1.0	89.7 \pm 4.9	91.9 \pm 4.2	94.5 \pm 3.2	96 \pm 7.9	88.9 \pm 6.0	89.4 \pm 5.2

Murine RAW264.7 cells (1×10^5 cells/ mL, 200 μ L/well) were supplemented with increasing concentrations (0-1.0%, (w/v dry weight)) of SGID BWSPH (BW-SPH-A-GI – BW-SPH-F-GI) for 24 h. Cell viability was determined by the MTT assay and expressed as a percentage of the control, DMEM only (100% cell viability). Data are expressed as the mean \pm SEM of three independent experiments. Statistical analysis by ANOVA followed by Dunnett's test.

Table S3. Arithmetical ranks of blue whiting (*Micromesistius poutassou*) soluble protein hydrolysates (BWSPH) pre- and post-simulated gastrointestinal digestion (SGID) with respect to individual antioxidant parameters.

Sample Code	ORAC	FRAP	GSH	CAT	ROS INHIBITION	Sum of Rank	Final Rank
BW-SPH-A	5	5	1	4	3	18	2
BW-SPH-A-GI	1	7	2	2	1	13	1
BW-SPH-B	9	6	12	9	6	42	12
BW-SPH-B-GI	2	8	3	12	4	29	4
BW-SPH-C	12	3	8	7	9	39	9
BW-SPH-C-GI	10	11	10	3	7	41	11
BW-SPH-D	4	1	11	8	11	35	5
BW-SPH-D-GI	3	9	6	10	12	40	10
BW-SPH-E	8	4	7	11	5	35	5
BW-SPH-E-GI	6	10	5	1	2	24	3
BW-SPH-F	11	2	9	6	8	36	7
BW-SPH-F-GI	7	12	4	5	10	38	8

Depending upon the antioxidant potential assessed through antioxidant assays, scores were given to each BWSPH and SGID BWSPH and the pooled score was computed to indicate the cumulative antioxidant potential of each hydrolysate. Values were arranged in descending order for each parameter and arithmetic ranks were given. ORAC: oxygen radical absorbance capacity, FRAP; ferric reducing antioxidant power, GSH; reduced glutathione, CAT; catalase, ROS; reactive oxygen species.

Table S4. Arithmetical ranks of blue whiting (*Micromesistius poutassou*) soluble protein hydrolysates (BWSPH) pre- and post-simulated gastrointestinal digestion (SGID) with respect to individual immunomodulatory parameters.

Sample Code	NO	IL-6	TNF- α	Sum of Rank	Final Rank
BW-SPH-A	6	9	6	21	7
BW-SPH-A-GI	8	6	10	24	10
BW-SPH-B	2	3	11	16	4
BW-SPH-B-GI	10	7	9	26	11
BW-SPH-C	4	8	1	13	3
BW-SPH-C-GI	11	5	7	23	9
BW-SPH-D	3	11	5	19	5
BW-SPH-D-GI	9	4	8	21	7
BW-SPH-E	5	12	2	19	5
BW-SPH-E-GI	12	10	12	34	12
BW-SPH-F	1	2	4	7	1
BW-SPH-F-GI	7	1	3	11	2

Depending on the effects of BWSPH and SGID BWSPH on nitric oxide (NO), interleukin (IL)-6 and tumour necrosis factor (TNF)- α , scores were given to each hydrolysate and the pooled score was computed to indicate the cumulative immunomodulatory potential of each hydrolysate. Values were arranged in descending order for each parameter and arithmetic ranks were given.