

Supplementary data

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Fig. S1. Electrophoretic gels and blots of anthocyanins from PCA, PSP, PCO and GB on LPS-induced activation of TLR4 (A) and MyD88 (B) in BV2 cells.

Table S1. Profile of total anthocyanins and individual anthocyanins in purple vegetables.

Vegetables	Total anthocyanins (mg Cy3G · 100 g ⁻¹)	Peak no.	t (min)	[M] ⁺ (<i>m/z</i>)	Fragments (<i>m/z</i>)	Anthocyanin	Relative content (%)
Purple cabbage (PCA)	98.01±1.12a	1	7.692	465	303	Delphinidin-3-glucoside	15.08
		2	13.193	525	301	Sinapylpeonidin	5.29
		3	13.921	773	449, 287	Cyanidin-3-sophoroside-5-glucoside	16.67
		4	15.903	1141	979, 817, 449, 287	Cyanidin-3-(sinapyl)-triglucoside-5-glucoside	1.32
		5	16.550	979	817, 449, 287	Cyanidin-3-(sinapyl)-diglucoside-5-glucoside	6.24
		6	16.679	1081	919, 754, 449, 287	Cyanidin-3-(caffeoyl)(p-coumaroyl)-diglucoside-5-glucoside	3.89
		7	18.702	1287	1125, 979, 449, 287	Cyanidin-3-(ferulyl)(ferulyl)-triglucoside-5-glucoside	0.73
		8	23.733	919	757, 449, 287	Cyanidin-3-(p-coumaroyl)-diglucoside-5-glucoside	28.76
		9	26.055	519	271	Pelargonidin-3-(malonyl)-glucoside	17.35
		10	28.457	1287	1125, 979, 449, 287	Cyanidin-3-(ferulyl)(ferulyl)-triglucoside-5-glucoside	0.34
		11	29.428	1125	979, 449, 287	Cyanidin-3-(sinapyl)(p-coumaroyl)-diglucoside-5-glucoside	2.99
		12	30.487	1155	993, 449, 287	Cyanidin-3-(sinapyl)(ferulyl)-diglucoside-5-glucoside	0.53
		13	30.949	1185	817, 449, 287	Cyanidin-3-(sinapyl)(sinapyl)-diglucoside-5-glucoside	0.81
Purple sweet potato (PSP)	8.06±1.17c	1	8.291	465	303	Delphinidin-3-glucoside	13.72
		2	13.201	525	301	Sinapylpeonidin	13.89
		3	14.002	773	449, 287	Cyanidin-3-sophoroside-5-glucoside	1.65
		4	17.618	907	745, 463, 301	Peonidin-3-hydroxybenzoylsophoroside-5-glucoside	14.36
		5	18.354	433	271	Pelargonidin-3-glucoside	12.03
		6	19.616	963	801, 479, 317	Petunidin-3-(ferulyl)-rutinoside-5-glucoside	4.10
		7	22.204	949	787, 449, 287	Cyanidin-3-(ferulyl)-diglucoside-5-glucoside	9.97
		8	23.636	1111	949, 787, 449, 287	Cyanidin-3-(caffeoyl)(ferulyl)-diglucoside-5-glucoside	2.21
		9	25.949	1069	907, 463, 301	Peonidin-3-(6-caffeoyl-6-hydroxybenzoylsophoroside)-5-glucoside	18.54
		10	26.079	519	271	Pelargonidin-3-(malonyl)-glucoside	3.08

Purple corn (PCO)	27.55±0.59b	11	27.600	1125	979, 449, 287	Cyanidin-3-(sinapyl)(p-coumaroyl)-diglucoside-5-glucoside	6.45
		1	12.841	525	301	Sinapylpeonidin	6.21
		2	16.680	449	287	Cyanidin-3-glucoside	13.03
		3	18.211	463	301	Peonidin-3-glucoside	6.13
		4	19.449	535	287	Cyanidin-3-(malonyl)-glucoside	8.65
		5	23.063	549	301	Peonidin-3-(malonyl)-glucoside	10.32
		6	25.222	635	287	Cyanidin-3-(malonyl)(succinyl)-glucoside	28.45
		7	26.133	517	355	Pyranomalvinidin-3-glucoside	16.14
		8	27.246	563	301	Peonidin-3-(succinyl)-glucoside	6.91
		9	42.455	903	741, 433, 271	Pelargonidin-3-(p-coumaroyl)-diglucoside-5-glucoside	4.16
		Gynura bicolor (GB)	3.17±1.70d	1	7.021	287	287
2	7.733			465	303	Delphinidin-3-glucoside	2.67
3	9.642			463	301	Peonidin-3-glucoside	19.97
4	13.080			525	301	Sinapylpeonidin	12.49
5	17.569			303	303	Delphinidin	2.81
6	20.708			525	301	Sinapylpeonidin	1.84
7	25.966			519	271	Pelargonidin-3-(malonyl)-glucoside	6.17
8	33.254			449	287	Cyanidin-3-glucoside	51.96

Different letters in each column mean significant differences ($p < 0.05$)

Table S2. The trapping activity of MGO by anthocyanins from PCA, PSP, PCO and GB.

Concentration level ($\mu\text{g/mL}$)	MGO trapping activity (%)				
	AG	PCA	PSP	PCO	GB
50	18.17 \pm 1.78aA	28.59 \pm 1.23bA	28.97 \pm 1.34bA	28.94 \pm 0.96bA	28.7 \pm 0.98bA
100	36.13 \pm 1.56aB	39.57 \pm 1.67aB	39.58 \pm 1.21aB	39.53 \pm 1.03aB	40.02 \pm 1.58aB
200	63.04 \pm 2.01aC	60.12 \pm 1.87aC	60.86 \pm 0.97aC	60.11 \pm 1.53aC	60.97 \pm 1.79aC

Lowercase letters represent the significant difference between different treatment groups under the same concentration, and capital letters represent the significant difference between different concentrations under the same treatment group ($p < 0.05$).

Table S3. The inhibiting rate on $\text{A}\beta_{1-42}$ fibrillation by anthocyanins from PCA, PSP, PCO and GB.

Induction styles	Inhibitory rate (%)					
	AG	RES	PCA	PSP	PCO	GB
Thermal induction	38.83 \pm 6.88c	73.83 \pm 0.66a	42.31 \pm 1.75c	40.75 \pm 7.84c	56.93 \pm 2.28b	43.96 \pm 4.71c
MGO induction	59.73 \pm 3.15b	74.94 \pm 0.79a	55.27 \pm 0.94b	53.15 \pm 0.35bc	55.85 \pm 0.61b	47.72 \pm 0.63c

Letters represent the significant difference between different treatment groups at the same induction treatment ($p < 0.05$).

Table S4. Effect of anthocyanins from PCA, PSP, PCO and GB on BV2 cells viability.

Concentration of anthocyanins ($\mu\text{g/mL}$)	Cell viability (%)			
	PCA	PSP	PCO	GB
Blank control	99.92 \pm 2.14a			
10	98.81 \pm 3.77a	99.95 \pm 0.81a	98.30 \pm 1.35a	98.03 \pm 1.01a
20	95.90 \pm 4.68a	99.66 \pm 0.74a	93.07 \pm 3.02a	100.35 \pm 3.25a
50	94.16 \pm 4.01a	93.25 \pm 4.63a	93.12 \pm 3.26a	96.72 \pm 2.68a
100	91.85 \pm 7.18a	92.56 \pm 1.99a	92.89 \pm 3.65a	95.72 \pm 3.61a
200	89.34 \pm 6.57a	91.53 \pm 2.00a	91.98 \pm 4.87a	89.52 \pm 6.23a
300	89.60 \pm 4.46a	88.60 \pm 6.20b	91.95 \pm 3.54a	88.45 \pm 5.88b

Different letters represent the significant difference between different treatment groups ($p < 0.05$).

Table S5. Effect of anthocyanins from PCA, PSP, PCO and GB on NO and TNF- α production in LPS-stimulated BV2 cells.

Treatment group	Concentration levels	NO production ($\mu\text{mol/L}$)	TNF- α production (ng/L)
Blank control		50.35 \pm 3.64cD	926.17 \pm 24.89dC
LPS		69.95 \pm 9.80aA	1574.63 \pm 15.30aA
	50	58.47 \pm 6.15bB	1344.54 \pm 64.39bB
PCA	100	57.45 \pm 1.00bBC	1304.72 \pm 103.93bB
	200	49.88 \pm 2.97cD	1126.48 \pm 54.30cB
PSP	50	61.68 \pm 8.09bB	1291.30 \pm 108.67bB

	100	52.86±5.53cC	1116.76±52.47cC
	200	49.77±3.39cD	1101.48±26.45cB
	50	63.48±6.44bB	1341.30±37.11bB
PCO	100	62.38±4.09bB	1301.02±40.38bB
	200	61.13±2.00bB	1255.19±155.77bB
	50	60.63±4.81bB	1324.17±143.69bB
GB	100	59.14±2.25bB	1292.69±28.14bcB
	200	55.75±2.80bC	1182.96±127.25cB

Different lowercase letters represent the significant difference in blank control, LPS and different concentrations under the same treatment group, and different capital letters represent the significant difference in blank control, LPS and different treatment groups under the same concentration ($p < 0.05$).

Table S6. Effect of anthocyanins from PCA, PSP, PCO and GB on LPS-induced activation of TLR4 and MyD88 in BV2 cells.

Treatment group	Concentration levels	TLR4/ β -actin (Relative levels)	MyD88/ β -actin (Relative levels)
Blank control		0.159±0.009cD	0.180±0.029cdD
LPS		0.395±0.017aA	0.446±0.027aA
	50	0.256±0.013bB	0.398±0.023bB
PCA	100	0.382±0.022aA	0.188±0.012cD
	200	0.250±0.015bC	0.200±0.025cD
	50	0.248±0.019cB	0.403±0.039bB
PSP	100	0.329±0.021bB	0.237±0.031dC
	200	0.246±0.018cC	0.290±0.028cC
	50	0.222±0.016cB	0.305±0.026cC
PCO	100	0.320±0.021bB	0.360±0.031bB
	200	0.348±0.011bB	0.181±0.011dD
	50	0.272±0.011cB	0.378±0.031bB
GB	100	0.323±0.019bB	0.215±0.029dC
	200	0.387±0.018aA	0.331±0.028cB

Different lowercase letters represent the significant difference in blank control, LPS and different concentrations under the same treatment group, and different capital letters represent the significant difference in blank control, LPS and different treatment groups under the same concentration ($p < 0.05$).

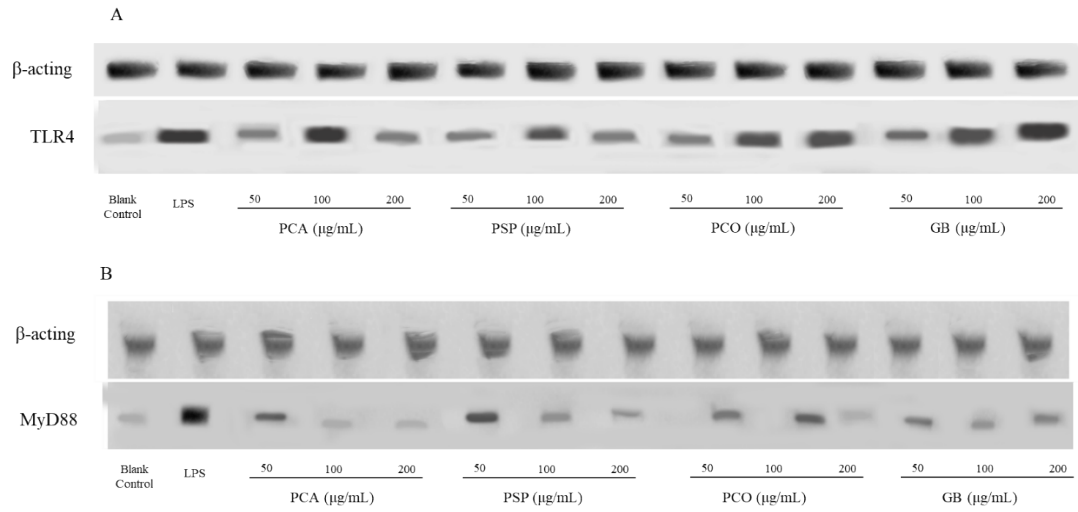


Fig. S1. Electrophoretic gels and blots of anthocyanins from PCA, PSP, PCO and GB on LPS-induced activation of TLR4 (A) and MyD88 (B) in BV2 cells.