

1 The Medox and placebo capsules were similar and processed and packaged at the Biolink
 2 Group's own processing factory in Sandnes, Norway. Medox is a veg-encapsulated
 3 anthocyanin extract from wild Norwegian bilberries (*Vaccinium myrtillus*) and black
 4 currants (*Ribes nigrum*). The anthocyanin capsules also contained pullulan, maltodextrin,
 5 and citric acid (which occupied for 4% per capsule and was helpful to maintain stability
 6 of anthocyanins), whereas the placebo capsules only contained pullulan and maltodextrin.
 7 The specific ingredients of anthocyanins capsules are shown in Supplemental Table S1.

8 **Supplemental Table S1 The composition of anthocyanins capsules**

Components	Content
Bilberry (<i>Vaccinium myrtillus</i>) skin	45-52%
Blackcurrant (<i>Ribes nigrum</i>) skin	12-13%
Pullulan	20-28%
Maltodextrin	11-12%
Citric acid	3-4%

9 European bilberry and black currant are rich in a variety of anthocyanins, mainly
 10 concentrated in the peel. According to literatures, bilberry contains 15 kinds of natural
 11 anthocyanins; blackcurrant contains 4 kinds of natural anthocyanins, the composition
 12 detailed in Table S2. The total amount of anthocyanins in each capsule is 80mg, which is
 13 a mixture of 3-O-rutinosides of cyanidin and delphinidin, and 3-O-b-galactosides, 3-O-b-
 14 glucosides, and 3-O-b-arabinosides of cyanidin, peonidin, delphinidin, petunidin, and
 15 malvidin. The relative contents of various anthocyanins are shown in Table S3.

16 **Supplemental Table S2 The anthocyanins contained in *Vaccinium myrtillus* and**

17 ***Ribes nigrum***

No	Anthocyanins	Abbreviations
Vaccinium		
1	Delphinidin 3-O- β -glucosides	Dp-3-G
2	Delphinidin 3-O- β -galactosides	Dp-3-gal
3	Delphinidin 3-O- β -arabinosides	Dp-3-A
4	Cyanidin 3-O- β -glucosides	Cy-3-G
5	Cyanidin 3-O- β -galactosides	Cy-3-gal
6	Cyanidin 3-O- β -arabinosides	Cy-3-A
7	Petunidin 3-O- β -glucosides	Pe-3-G
8	Petunidin 3-O- β -galactosides	Pe-3-gal
9	Petunidin 3-O- β -arabinosides	Pe-3-A
10	Peonidin 3-O- β -glucosides	Pn-3-G
11	Peonidin 3-O- β -galactosides	Pn-3-gal
12	Peonidin 3-O- β -arabinosides	Pn-3-A
13	Malvidin 3-O- β -glucosides	Mv-3-G
14	Malvidin 3-O- β -galactosides	Mv-3-gal
15	Malvidin 3-O- β -arabinosides	Mv-3-A
Ribes nigrum		
1	Delphinidin 3-O- β -glucosides	Dp-3-G
2	Cyanidin 3-O- β -glucosides	Cy-3-G
3	Delphinidin 3-O-rutinoside	Dp-3-R
4	Cyanidin 3-O-rutinoside	Cy-3-R

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19 **Supplemental Table S3 The relative contents of anthocyanins in Medox capsules**

Anthocyanins	Content (%)
Dp-3-G, Dp-3-gal, Dp-3-A	58.0
Cy-3-G, Cy-3-gal, Cy-3-A	33.0
Mv-3-G, Mv-3-gal, Mv-3-A	3.0
Pe-3-G, Pe-3-gal, Pe-3-A	2.5
Pn-3-G, Pn-3-gal, Pn-3-A	2.5

Dp-3-R, Cy-3-R	1.0
Total	100.0
