SUPPLEMENTARY INFORMATION

Materials and Methods

Detection of monosaccharide composition and molecular weight of polysaccharides by high-performance liquid chromatography (HPLC): A sample (50 mg) was dissolved in trifluoroacetic acid (14 mL, 2 mol/L) at 120 °C for 2 hours with derivatization of monosaccharides by 1-phenyl-3-methyl-5-pyrazolone (PMP). Next, NaOH (200 μL, 0.3 mol/L) and PMP methanol (400 μL) were added, followed by vortexing and through mixing. The reaction was then carried out in a 70 °C water bath for 1 hour. We then added HCl (200 μL, 0.3 mol/L), water (0.75 mL), and chloroform (1 mL), followed by vortexing and thorough mixing. The process was repeated three times. The chloroform layer was then discarded, and the aqueous layer was filtered (0.45 μm).

The monosaccharide composition of DOE was confirmed using a C18 Agilent 4.6 mm * 250 mm * 5 μm chromatographic column. Ten microliters of KH_2PO_4 (0.1 mol/L, pH 6.8) (mobile phase A): acetonitrile (mobile phase B) = 82:18, isocratic elution (flow rate: 1.0 mL/min, column temperature: 25 °C) were injected and tested at 245 nm. The retention period of each monosaccharide standard was measured under the same conditions.

The molecular weight of the polysaccharide in the DOE mixture was confirmed in a PL aqua gel-OH Mixed-H 8 μm, 7.5 × 300 mm (molecular weight range 200–10,000,000) chromatographic column. The sample was dissolved with 0.1 mol/L sodium nitrate as the mobile phase with isocratic elution (flow rate: 1.0 mL/min, column temperature: 45 °C). Next, 50 μL were obtained for injection, and the molecular weights were calculated from the viscosity and peak times of the samples by GPC software.

Protein molecular weight assay: A sample (50 mg) was dissolved with Tris-HCl (20 mmol/L, pH 7.4) with cold extraction at 4 °C, addition of ammonium

sulfate for salting out, centrifugation at 3300 g for 10 minutes. The precipitate was desalted by dialysis using a dialysis bag for 3 days followed by lyophilization. The crude *D. officinale* protein was then obtained.

The *D. officinale* protein was then purified and characterized by anion-exchange column chromatography. The crude *D. officinale* protein was prepared as a 5 mg/mL solution with mobile phase A and filtered through a microfilm (0.45 μm). Next, 100 mg of protein was passed through the DEAE anion-exchange column (particle size 90 μm). The column was eluted with 10 times the volume of mobile phase A (flow rate: 3 mL/min), and the concentration of mobile phase B was gradually increased for gradient elution. Finally, mobile phase B was used to elute 10 times the volume of the column, and the proteins were sequentially eluted in a stepwise manner. The protein was dialyzed and desalted using a dialysis bag for 2 days and then lyophilized to obtain the purified protein.

The molecular weight of the protein was detected by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and Coomassie brilliant blue protein gel rapid staining. The proteins were prepared at various concentrations in solution with double-distilled water. The electrophoresis experiments were carried out at a concentration of 12% for the separator gel and 5% for the concentrator gel, with a sample volume of 20 μL per well.

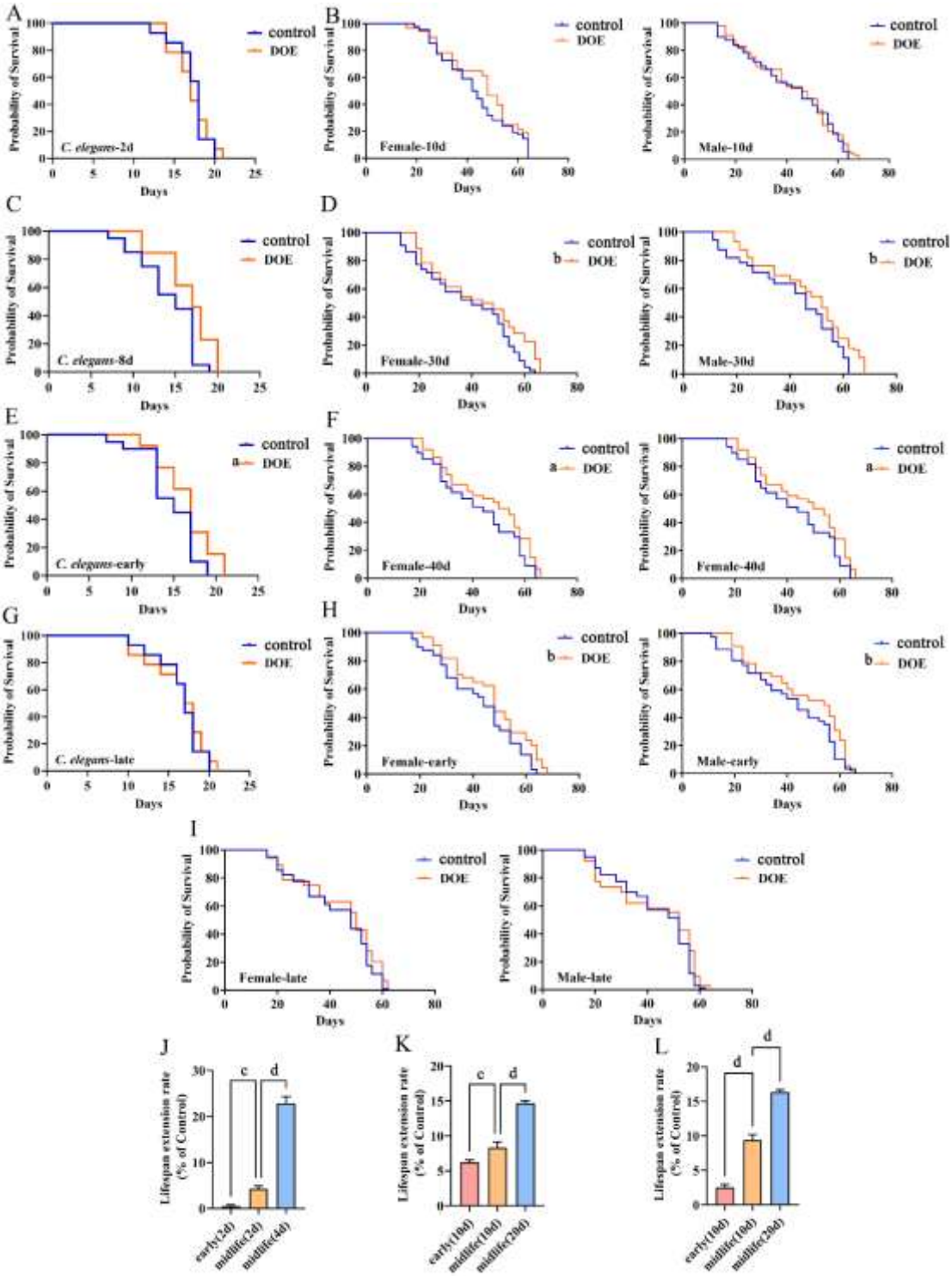
Analysis of anthocyanin and flavonoid content and composition: A sample (50 mg) was dissolved in extraction solution (500 μL, 50% aqueous methanol containing 0.1% HCl), followed by vortexing and centrifugation for 3 minutes at 4 °C (9600 g), after which the supernatant was obtained.

The content and composition of the anthocyanin and flavonoids were confirmed by liquid chromatography-tandem mass spectrometry. The liquid phase was analyzed on an ACQUITY BEH C18 1.7 μm, 2.1 mm*100 mm column.

The mobile phases were ultrapure water (with addition of 0.1% formic acid) (mobile phase A) and methanol (with addition of 0.1% formic acid) (mobile phase B). The elution gradient is shown below (flow rate: 0.35 mL/min, column temperature: 40 °C). The B-phase ratio was 5% at 0 minutes, 50% at 6 minutes, 95% at 12 minutes, held for 2 minutes, and 5% at 14 minutes, equilibrate for 2 minutes, 2 μL were injected.

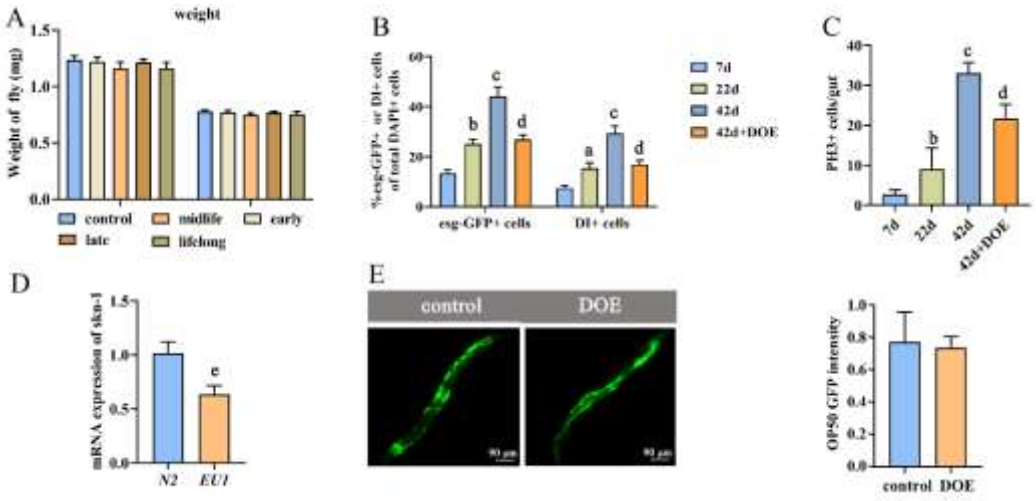
The pristine analysis conditions were an electrospray ionization temperature of 550 °C, mass spectrometry voltage of 5500 V, and curtain gas set at 35 psi in positive ion mode. In the Q-Trap 6500+, each ion pair was scanned and detected based on an optimized declustering potential and collision energy.

Content detection of key active components in DOE: The polysaccharide content, protein content, and anthocyanin content were measured using the phenol-sulfuric acid method (Jia et al., 2023), the BCA method (Escandón, Jorrín-Novo, & Castillejo, 2021), and the pH differential method(Taghavi, Patel, Akande, & Galam, 2022), respectively, according to established protocols.



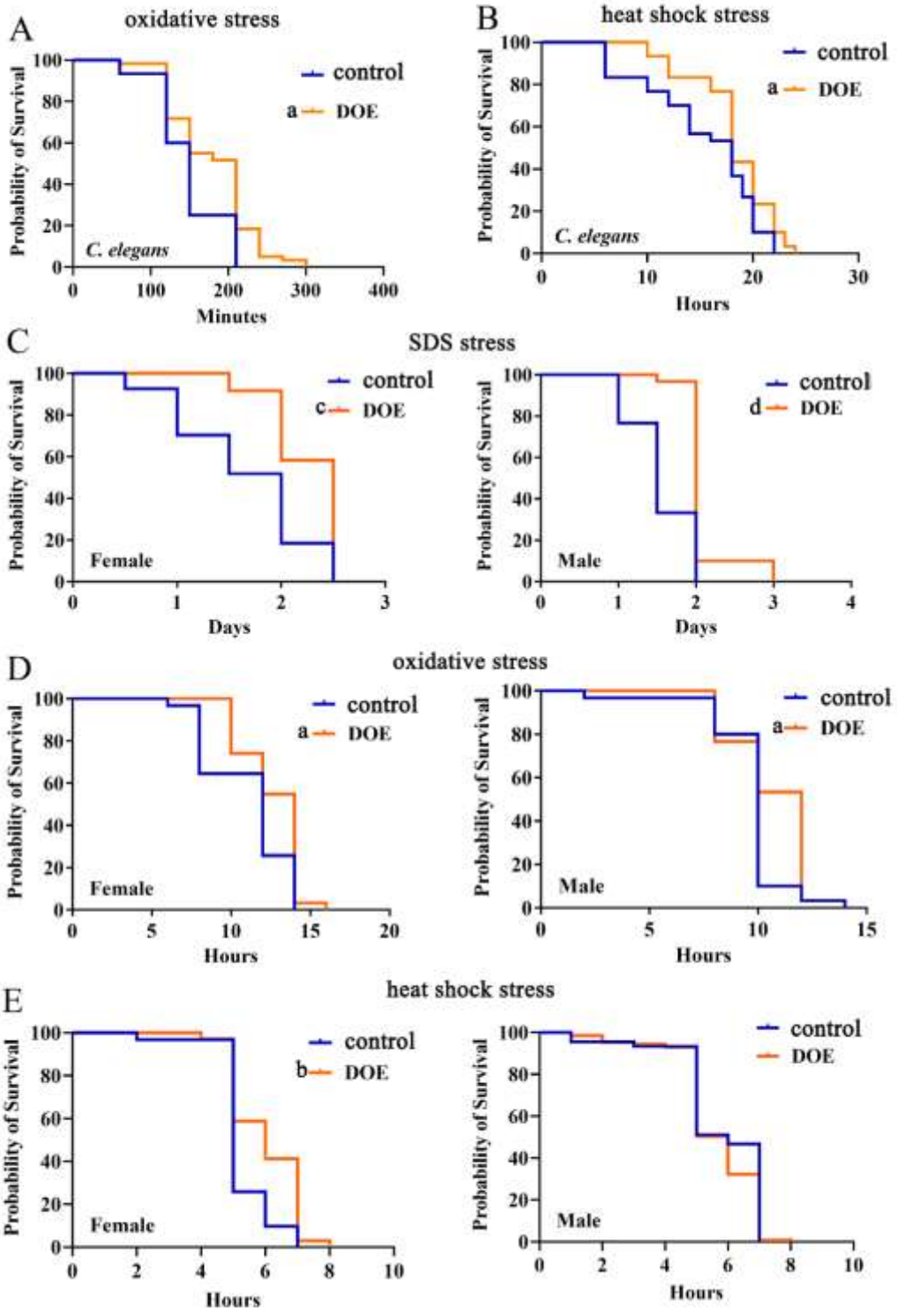
Supplementary Figure 1 DOE intervention window and duration screening. Survival curve of DOE treatment for 2 days (A), 8 days (C) in nematodes (N=90 nematodes per condition, Mantel-Cox). Survival curve of DOE treatment for 10 days (B), 30 days (D), and 40 days (F) in flies (N=150 flies per condition, Mantel-Cox). Survival curve of DOE early intervention (E) and late intervention (G) for

4 days in nematodes (N=90, Mantel-Cox). Survival curve of DOE early intervention (H) and late intervention (I) for 20 days in flies (N=150 flies per condition, Mantel-Cox). (J) Comparison of the average lifespan extension rate of nematodes after early intervention for 2 days, midlife intervention for 2 days, and midlife intervention for 4 days with DOE (N=3, one-way ANOVA). Comparison of the average lifespan extension rate of female flies (K) and male flies (L) after early intervention for 10 days, midlife intervention for 10 days, and midlife intervention for 20 days with DOE (N=3, one-way ANOVA). The data are expressed as the mean ± standard deviation. ^{a}p<0.05 vs control group, ^{b}p<0.01 vs control group, ^{c}p<0.01 vs midlife group, ^{d}p<0.0001 vs midlife group.

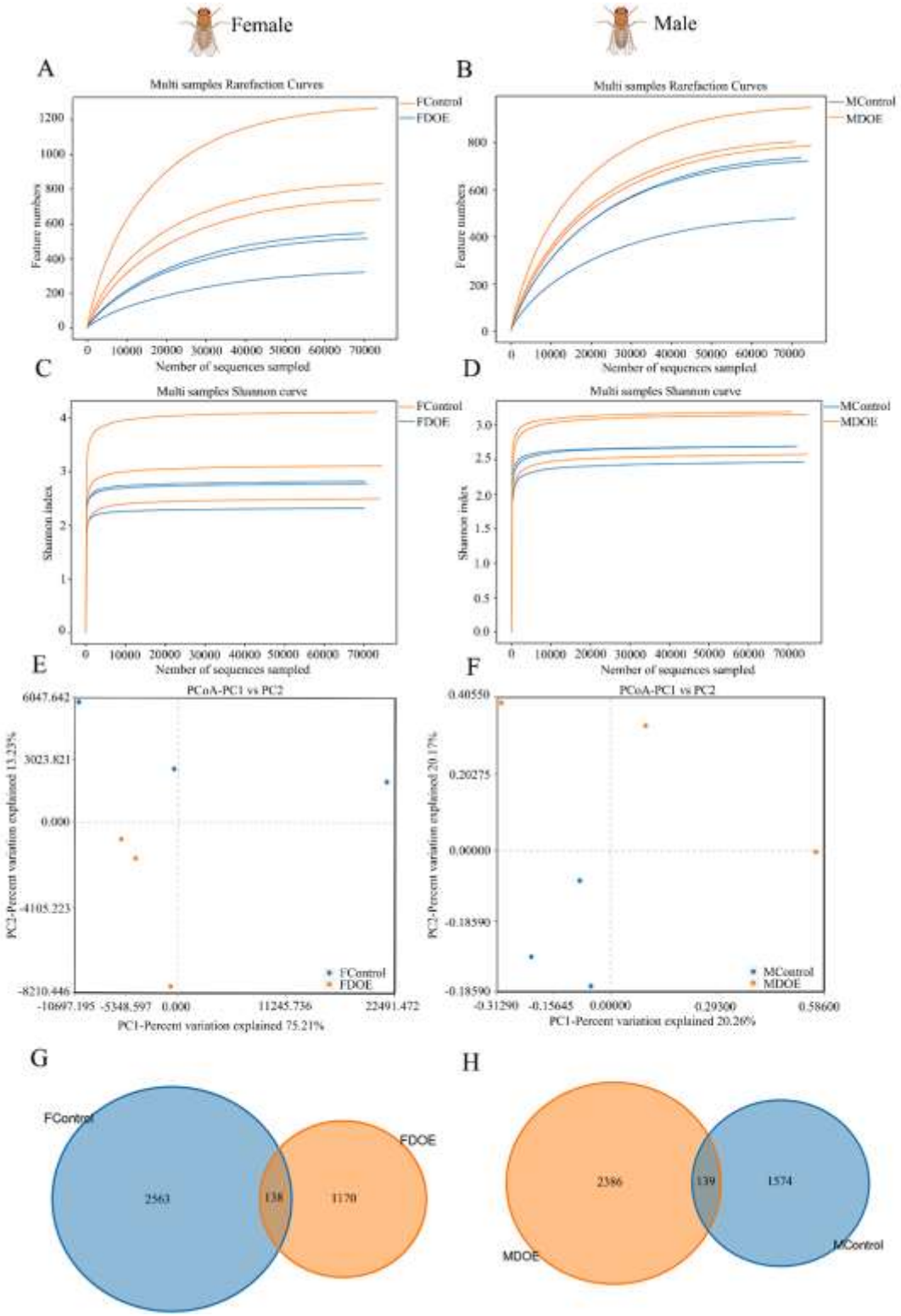


Supplementary Figure 2 Effects of intervention with DOE on health indicators in *D. melanogaster* and *C. elegans*. (A) The weight after intervention with DOE in the early, midlife, late, and lifelong stages in flies (N=3, one-way ANOVA). (B) Quantifying esg-GFP+ or DI+ cells as percentages of total DAPI-stained cells in male flies. (C) Quantifying the mitotic index (pH3-positive cells per midgut) in male flies. (D) The mRNA levels of skn-1 in *N2* and *EU1* nematodes. Data are expressed as the mean ± standard deviation. (E) Intestinal microbial colonization capacity of *EU1* after intervention with DOE. ^{a}p<0.05 vs

7d group, [b]$p<0.01$ vs 7d group, [c]$p<0.0001$ vs 7d group, [d]$p<0.0001$ vs 42d group, [e]$p<0.001$ vs *N2* group

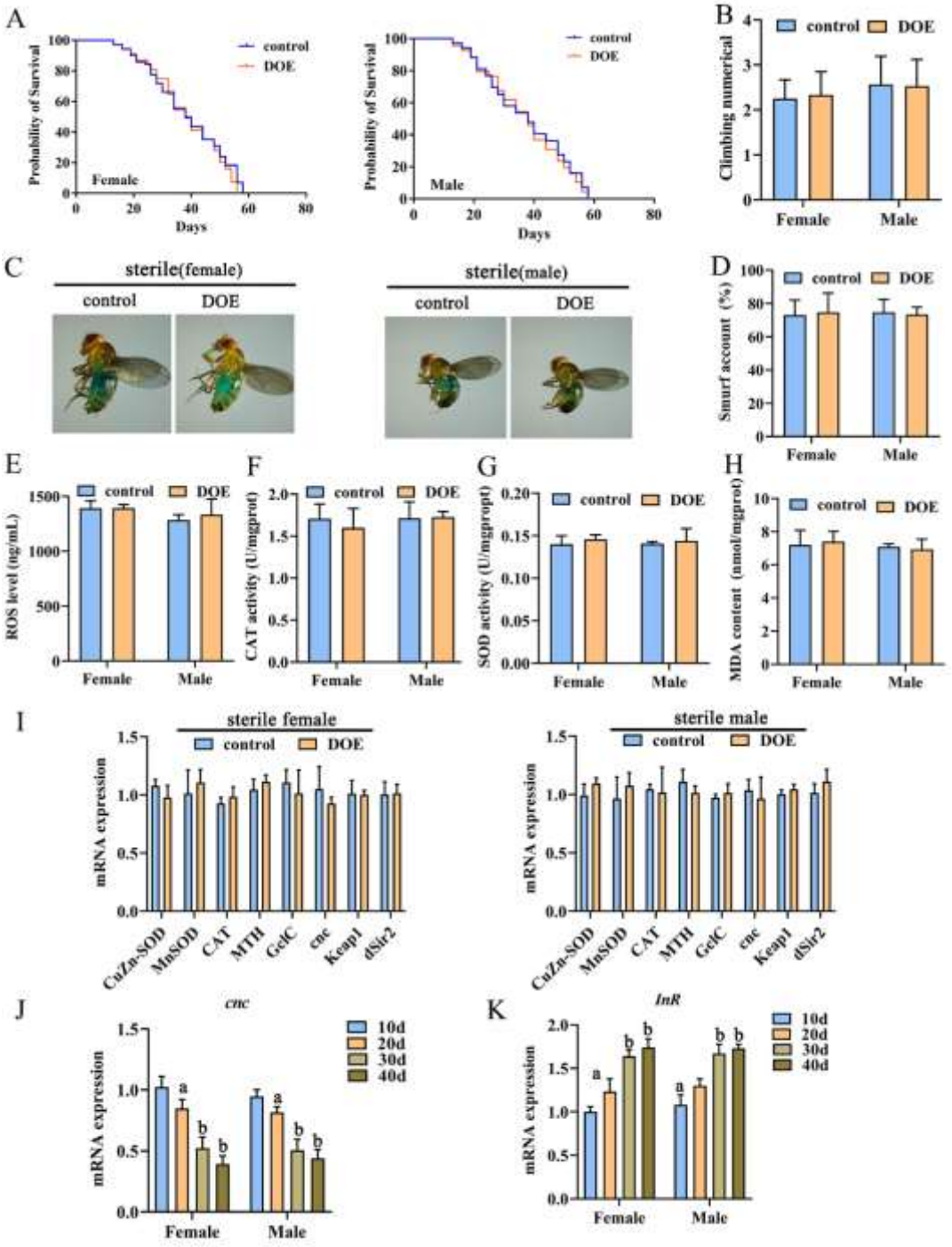


Supplementary Figure 3 DOE midlife intervention improves stress resistance ability. Survival curve for nematodes exposed to oxidative stress (A) and heat stress (B) (N=60 nematodes per condition). Survival curve for flies under exposure to SDS (C), oxidative stress (D), and heat stress (E) (N=60 flies per condition). The data are expressed as the mean ± standard deviation. Survival data were analyzed by log-rank test. $^{a}p<0.05$ vs control group, $^{b}p<0.01$ vs control group, $^{c}p<0.001$ vs control group, $^{d}p<0.0001$ vs control group.



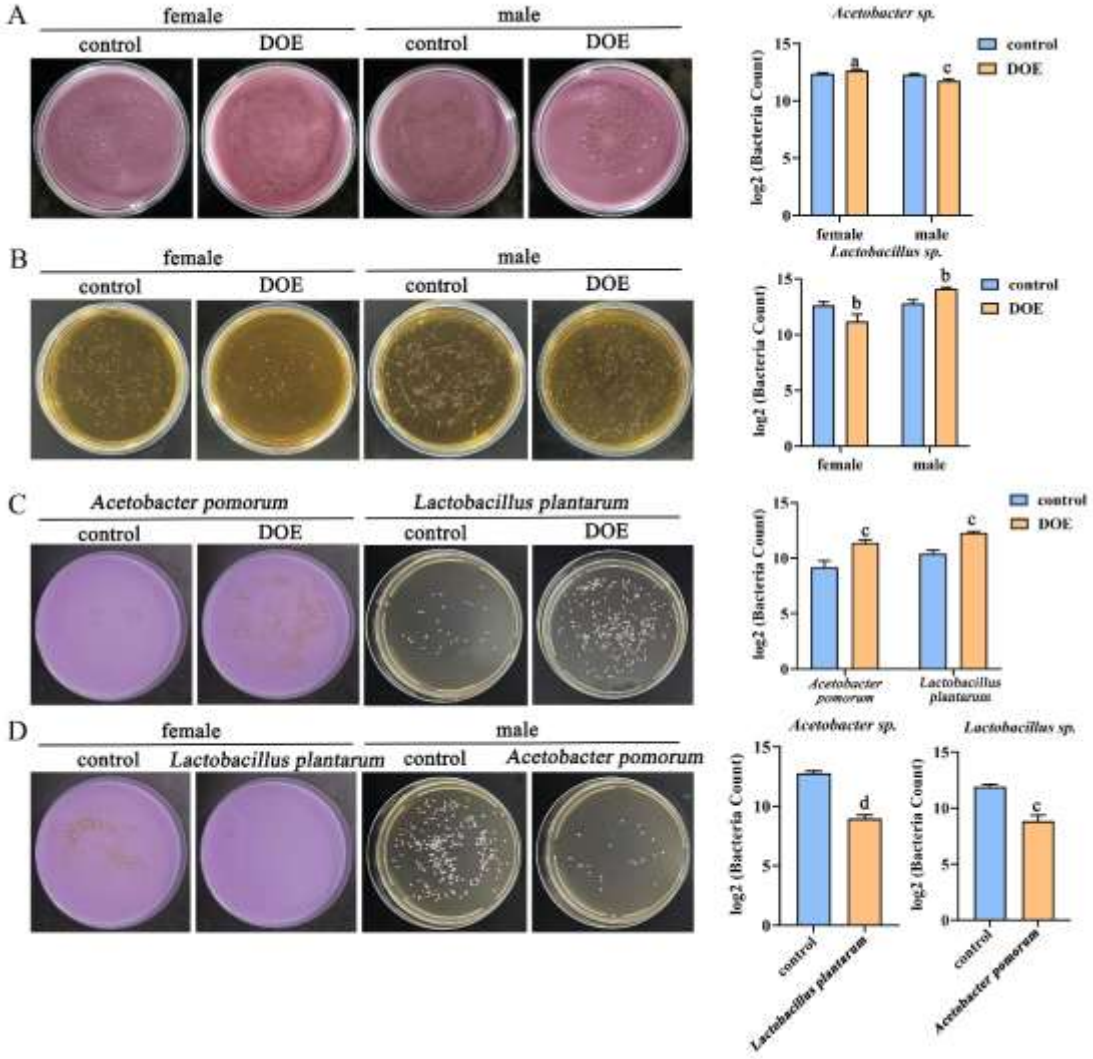
Supplementary Figure 4 Effects of DOE on the intestinal microbiota of *D. melanogaster*. Rarefaction curve (A shows female flies; B shows male flies), Shannon curve (C shows female flies; D shows male flies), Principal coordinate analysis (E shows female flies; F shows male flies), and number of operational

taxonomic units (G shows female flies; H shows male flies) in the intestinal microbiota. The data are expressed as the mean ± standard deviation.

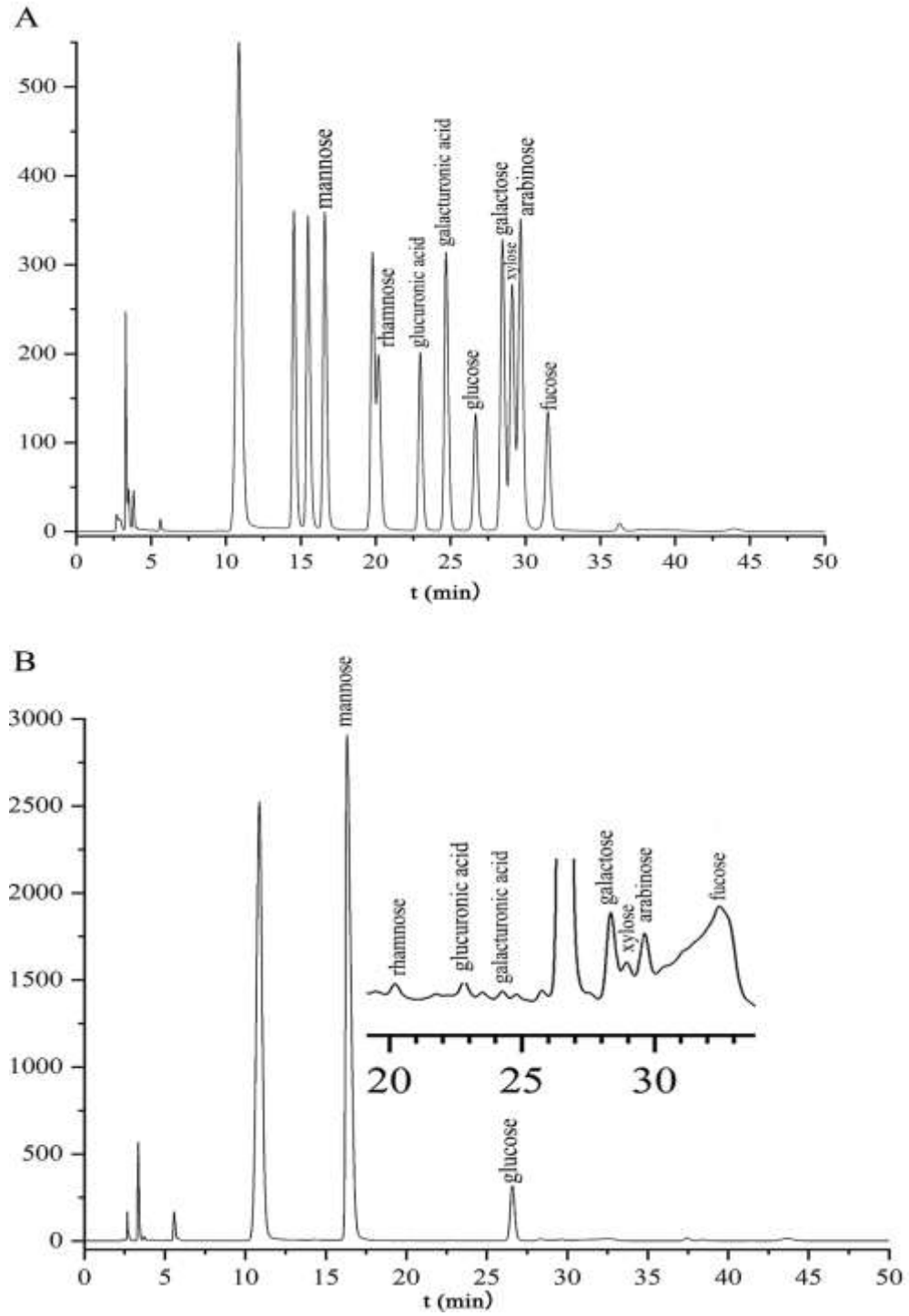


Supplementary Figure 5 DOE activation of *Keap1-Nrf2-ARE* oxidative stress pathway mediated by gut microbiota dependence. Survival curves for sterile

flies with or without DOE treatment (A) (N=150 flies per condition). Climbing number (B), and intestinal integrity (C-D) in sterile flies with or without DOE (N=3). ROS level (E) and the activity of CAT (F), SOD (G), and MDA (H) in sterile flies with or without DOE (N=3). (I) Relative expression of the antioxidant gene of sterile flies with or without DOE. Relative expression of *cnc* (J) and *InR* (K) genes in flies at 10d, 20d, 30d, and 40d. The data are expressed as the mean ± standard deviation. Data were analyzed by log-rank test (survival) or one/two-way ANOVA with post-hoc test (multiple comparisons). $^{a}p<0.05$ vs 10d group, $^{b}p<0.001$ vs 10d group.

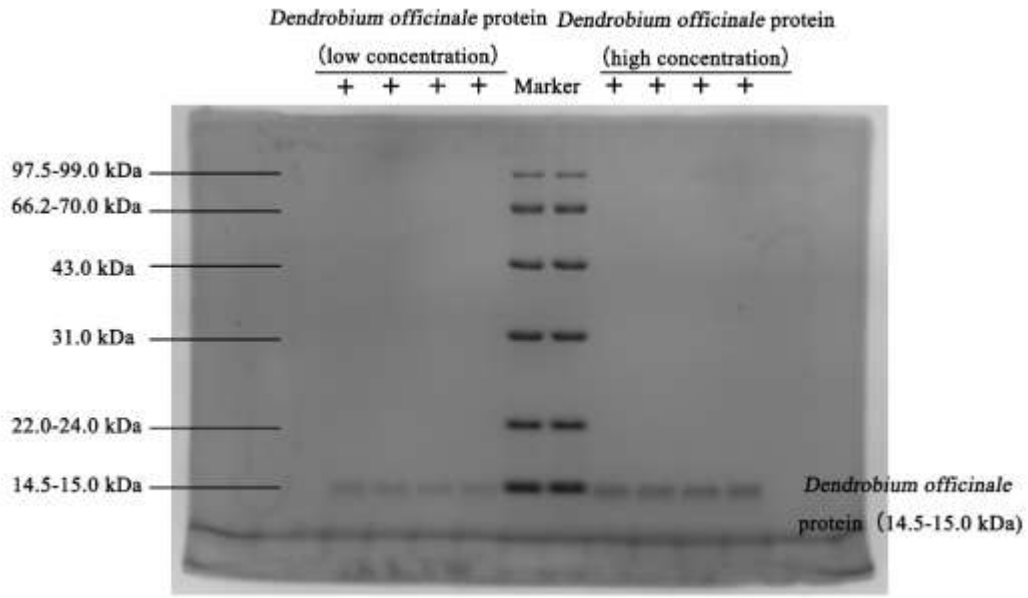


Supplementary Figure 6 DOE has a gender preference in regulating *Acetobacter sp.* and *Lactobacillus sp.* Growth status of *Acetobacter sp.* (A) and *Lactobacillus sp.* (B) of female and male sterile flies with or without DOE. (C) Growth status of *Acetobacter sp.* and *Lactobacillus sp.* with or without direct intervention from DOE. (D) Growth status of *Acetobacter sp.* and *Lactobacillus sp.* of female and male sterile flies with *Lactobacillus plantarum or Acetobacter pomorum*. Data are expressed as the mean ± standard deviation. Data were analyzed by Student's t-test (two groups) or one-way ANOVA with post-hoc test (multiple comparisons). $^{a}p<0.05$ vs control group, $^{b}p<0.01$ vs control group, $^{c}p<0.001$ vs control group, $^{d}p<0.0001$ vs control group.

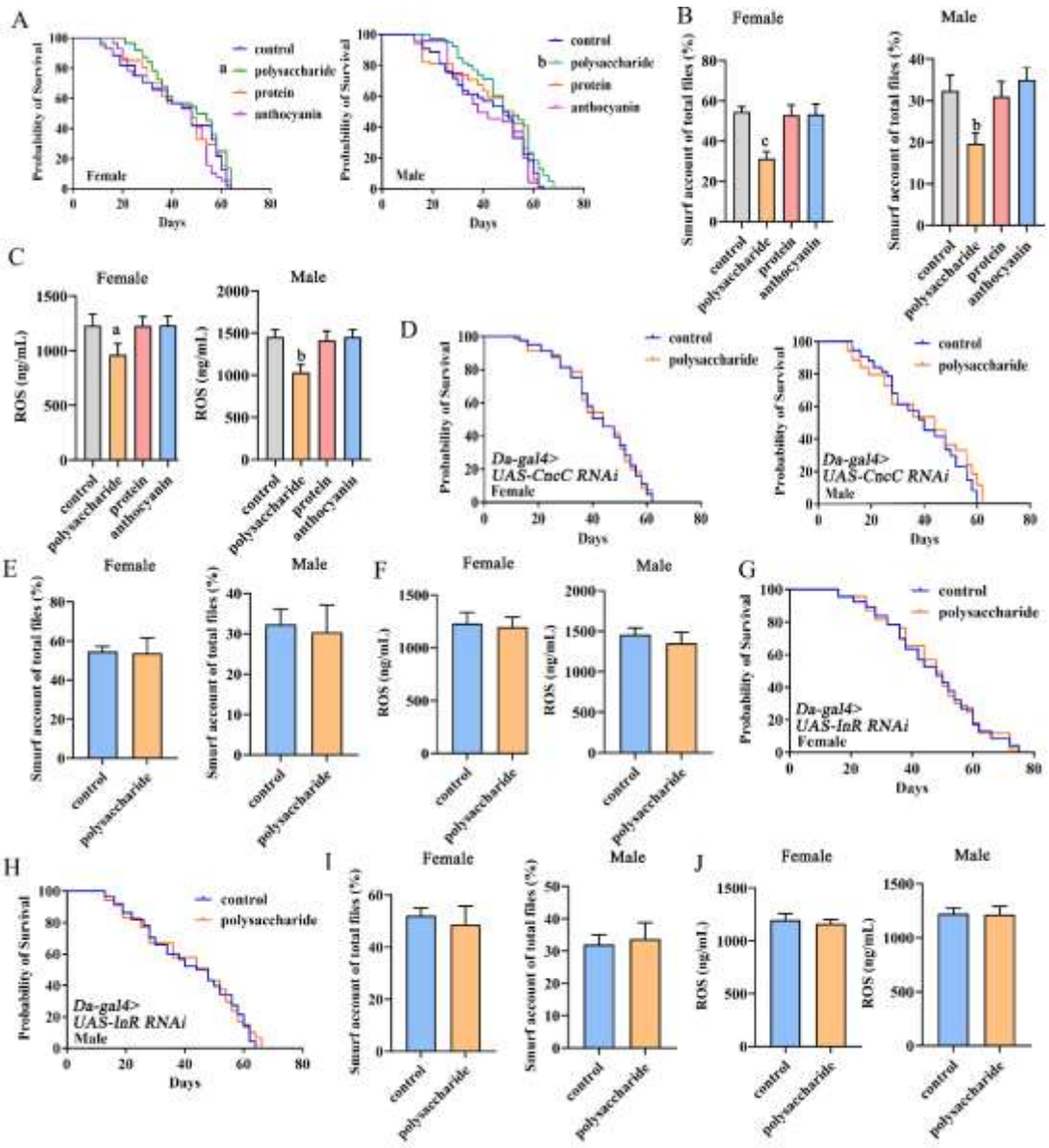


Supplementary Figure 7 High-performance liquid chromatographic spectra.

(A) Spectra of the DOP reference substance. (B) Spectra of DOP samples.



Supplementary Figure 8 Raw image of the molecular weight distribution map for of *D. officinale* protein.



Supplementary Figure 9 DOP is a key component of DOE pharmacological activity. (A) Survival curves for flies interfere with or without polysaccharide, protein, and anthocyanin (N=150 flies per condition). Intestinal integrity (B) and ROS level (C) in flies interfere with or without polysaccharide, protein, and anthocyanin (N=3). (D) Survival curves for *Da-gal4>UAS-CncC RNAi* are shown with or without polysaccharide (N=150 flies per condition). Intestinal integrity (E) and ROS level (F) for *Da-gal4>UAS-CncC RNAi* interfere with or without polysaccharide (N=3). Survival curves for *Da-gal4>UAS-InR RNAi* (female, G; male, H) are shown with or without polysaccharide (N=150 flies per

condition). Intestinal integrity (I) and ROS level (J) for *Da-gal4>UAS-InR RNAi* interfere with or without polysaccharide (N=3). Data are expressed as the mean ± standard deviation. Data were analyzed by log-rank test (survival), Student's t-test (two groups) or one-way ANOVA with post-hoc test (multiple comparisons).). $^{a}p<0.05$ vs control group, $^{b}p<0.01$ vs control group, $^{c}p<0.001$ vs control group

Supplementary Table 1 List of primer sequence used for RT-qPCR in the present study

Gene	Sequences
Nrf2	(F)TTGGGCTTCAGTTTGG
	(R)ATCCGAGGACTTGGTCT
Keap1	(F)ACGCCCAACTTCCTCA
	(R)GGCACCCAAACCAGAT
CuZn-SOD	(F)GCGGCGTTATTGGCATTG
	(R)ACTAACAGACCACAGGCTATG
MnSOD	(F)CACATCAACCACACCATCTTC
	(R)CGTCTTCCACTGCGACTC
CAT	(F)TGAACTTCCTGGATGAGATGTC
	(R)TCTTGGCGGCACAATACTG
MTH	(F)AGCGTATATTAGGAGTGAAGAAGG
	(R)CCGTAGGAAGAAGGTGTAAGTC
RP49	(F)CTTCATCCGCCACCAGTC
	(R)GCACCAGGAACTTCTTGAATC
GclC	(F)ATGACGAGGAGAATGAGCTG
	(R)CCATGGACTGCAAATAGCTG
cnc	(F)GGAGATGACGAGGAGGAGAGTGAG
	(R)CCGCTGGCATAGGAGGCATTG
dSir2	(F)GCCCAAGAACAACATAACAAGC
	(R)CGAGATGATGCCACCTACCAC
sod-3	(F)CCAACCAGCGCTGAAATTCAATGG

	(R)GGAACCGAAGTCGCGCTTAATAGT
sod-5	(F)GAACTGCTGTCTTCGGAACTG
	(R)CCATGAAGTCCTGGTGACAAT
ctl-1	(F)GCGGATACCGTACTCGTGAT
	(R)GTGGCTGCTCGTAGTTGTGA
ctl-2	(F)GAGAATGTGCCAGAACTTTGC
	(R)CTTGACACGAGCTCCAAAATC
skn-1	(F)GACGTCAATTTATGGAGTGTCG
	(R)GAAGATGTTTTGTCGTGATCCG
dilp2	(F)ATCCCGTGATTCCACACAAG
	(R)GCGGTTCCGATATCGAGTTA
dilp3	(F)CCGAAACTCTCTCCAAGCTC
	(R)GCCATCGATCTGATTGAAGT
InR	(F)GAGGAGAAGCAGCATGGATATAG
	(R)CCCTAATTTGCAGGCATAGAGA
β-actin	(F)TCGGTATGGGACAGAAGGAC
	(R)CATCCCAGTTGGTGACGATA

Supplementary Table 2 Average lifespan and average lifespan extensions of *C. elegans* in concentration screening experiments

Group	Average lifespan (day)	Average lifespan extensions (%)
Control	13.53±0.33	0.00
10μg/mL	13.67±0.20	1.03±1.39
25μg/mL	15.76±0.43	16.48±1.02
50μg/mL	13.8±0.34	2.00±1.23

Supplementary Table 3 Average lifespan and average lifespan extensions of *D. melanogaster* in concentration screening experiments

Group	Female flies		Group	Male flies	
	Average lifespan (day)	Average lifespan extensions (%)		Average lifespan (day)	Average lifespan extensions (%)
Control	41.27±1.19	0.00	Control	41.79±1.08	0.00
2.5 mg/mL	41.41±1.39	0.35±0.23	2 mg/mL	43.51±1.13	4.13±0.55
5 mg/mL	45.82±1.02	11.03±0.56	2.5 mg/mL	46.88±1.19	12.18±0.34
10 mg/mL	41.31±1.02	0.12±0.18	5 mg/mL	43.96±0.43	5.20±0.62

Supplementary Table 4 Average lifespan and average lifespan extensions of *C. elegans* in intervention duration screening experiments

Intervention duration	Group	Average lifespan (day)	Average lifespan extensions (%)
2d	Control	16.14±1.25	0.00
	DOE	16.21±2.16	0.43±0.29
4d	Control	14.25±1.58	0.00
	DOE	16.59±1.61	16.42±2.10
8d	Control	14.20±2.33	0.00
	DOE	16.59±2.58	16.87±1.16

Supplementary Table 5 Average lifespan and average lifespan extensions of *D. melanogaster* in intervention duration screening experiments

Intervention duration	Group	Female flies		Male flies	
		Average lifespan (day)	Average lifespan extensions (%)	Average lifespan (day)	Average lifespan extensions (%)
10 days	Control	43.19±1.36	0.00	41.42±1.03	0.00
	DOE	45.88±1.28	6.24±0.34	42.46±1.12	2.53±0.41
20 days	Control	42.27±1.96	0.00	40.67±1.25	0.00
	DOE	47.47±1.53	12.30±0.67	46.16±1.69	13.52±0.37
30 days	Control	38.42±1.62	0.00	41.47±1.25	0.00
	DOE	42.82±1.02	11.47±0.35	46.84±1.06	12.95±0.30
40 days	Control	41.93±0.96	0.00	40.62±1.27	0.00
	DOE	46.54±1.22	11.01±0.24	45.53±1.96	12.08±0.39

Supplementary Table 6 Average lifespan and average lifespan extensions of *C. elegans* in intervention duration screening experiments

Intervention stage	Group	Average lifespan (day)	Average lifespan extensions (%)

early	Control	14.70±2.32	0.00
	DOE	16.53±1.14	12.50±1.10
midlife(4d)	Control	14.48±1.66	0.00
	DOE	17.84±2.55	23.21±1.46
late	Control	16.02±1.23	0.00
	DOE	16.31±1.65	1.86±0.62
midlife(2d)	Control	14.65±2.08	0.00
	DOE	15.30±1.25	4.43±0.63

Supplementary Table 7 Average lifespan and average lifespan extensions of *D. melanogaster* in intervention stage screening experiments

Intervention stage	**Group**	**Female flies**		**Male flies**	
		Average lifespan (day)	**Average lifespan extensions (%)**	**Average lifespan (day)**	**Average lifespan extensions (%)**
early	Control	42.13±1.26	0.00	40.71±1.06	0.00
	DOE	47.21±1.03	12.08±0.34	45.98±1.56	12.95±0.44
midlife(20d)	Control	41.15±1.69	0.00	47.04±1.46	0.00
	DOE	47.33±1.54	15.04±0.33	55.04±1.23	17.02±0.39
late	Control	46.61±1.62	0.00	47.52±1.62	0.00
	DOE	49.62±1.32	6.46±0.38	48.81±1.43	2.73±0.27
midlife(10d)	Control	41.61±1.03	0.00	45.38±1.67	0.00
	DOE	45.00±2.11	8.13±0.81	49.51±1.73	9.12±0.80

Supplementary Table 8 Average lifespan and average lifespan extensions of *C. elegans* in stress experiments

	Average lifespan	**Average lifespan**

			extensions (%)
oxidative stress	Control	149.00±5.63	0.00
(min)	DOE	180.50±7.22	21.14±0.32
heat stress	Control	15.06±1.12	0.00
(hour)	DOE	18.00±0.98	19.45±0.46

Supplementary Table 9 Average lifespan and average lifespan extensions of *D. melanogaster* in stress experiments

	Group	**Female flies**		**Male flies**	
		Average lifespan (day)	**Average lifespan extensions (%)**	**Average lifespan (day)**	**Average lifespan extensions (%)**
SDS stress	Control	1.66±0.53	0.00	1.55±1.06	0.00
(day)	DOE	2.24±0.75	35.00±2.62	2.08±1.26	34.41±3.65
oxidative	Control	11.03±1.63	0.00	9.67±2.06	0.00
stress	DOE	12.65±1.87	14.61±0.33	10.67±1.67	10.34±0.65
(hour)					
heat stress	Control	5.25±0.62	0.00	5.64±0.78	0.00
(hour)	DOE	5.99±0.78	14.11±0.38*	5.75±0.68	1.9±0.26

Supplementary Table 10 BugBase Phenotype Prediction

Phenotype	**Abundance prediction%**		**P-value**
	Control	**DOE**	
oxidative stress (female)	7.20 ± 0.98	3.50 ± 0.79	0.04
potential	7.16 ± 0.87	3.60 ± 0.56	0.04

pathogenicity (female)			
oxidative stress (male)	0.04 ± 0.01	0.02 ± 0.01	0.03
potential pathogenicity (male)	0.12 ± 0.03	0.06 ± 0.01	0.03

Supplementary Table 11 Average lifespan and average lifespan extension of *EU1* nematodes and *CncC RNAi* flies after DOE intervention

Model organisms	**Group**	**Average lifespan (day)**	**Average lifespan extensions (%)**
Nematodes	Control	17.33±0.21	0.00
	DOE	17.48±0.14	0.9±0.23
Female flies	Control	40.58±1.89	0.00
	DOE	41.68±1.77	2.71±0.16
Male flies	Control	39.26±1.01	0.00
	DOE	39.86±1.68	1.52±0.49

Supplementary Table 12 The average lifespan and average lifespan extension of flies in intervention stage screening experiments with the predominant bacterium

Intervention stage	**Female flies**		**Male flies**	
	Average lifespan (day)	**Average lifespan extensions (%)**	**Average lifespan (day)**	**Average lifespan extensions (%)**
control	40.24±1.34	0.00	40.39±1.28	0.00

early	42.46±1.53	5.51±0.65	42.12±1.56	4.29±0.36
midlife	45.64±1.65	13.42±0.39	45.57±1.45	12.83±0.47
late	40.64±1.27	0.99±0.21	40.99±1.49	1.48±0.65
lifelong	42.43±2.23	5.45±0.81	42.09±1.66	4.21±0.65

Supplementary Table 13 The average lifespan and average lifespan extension of flies in intervention predominant bacterium experiments

Group	**Female flies**		**Group**	**Male flies**	
	Average lifespan (day)	**Average lifespan extensions (%)**		**Average lifespan (day)**	**Average lifespan extensions (%)**
WT	38.18±1.58	0.00	Control	37.98±1.37	0.00
WT(*Acetobacte*)	39.61±1.67	3.75±0.42	*WT(Lactobacillus)*	39.86±1.26	4.93±0.25
sterile	40.51±1.23	0.00	sterile	40.44±1.11	0.00
sterile (*Acetobacte*)	45.87±1.15	13.24±0.32	sterile (*Acetobacte*)	45.92±1.43	13.54±0.62

Supplementary Table 14 The average lifespan and average lifespan extension of flies in the gut microbiota validation experiment

Group	**Female flies**		**Group**	**Male flies**	
	Average lifespan (day)	**Average lifespan extensions (%)**		**Average lifespan (day)**	**Average lifespan extensions (%)**

sterile	38.76±1.56	0.00	sterile	37.46±1.11	0.00
sterile （DOE）	39.88±0.98	2.88±00.23	sterile （DOE）	38.58±1.52	3.00±0.64

Supplementary Table 15 Average lifespan and average lifespan extension of *InR RNAi* flies after DOE intervention

group	**Female flies**		**Male flies**	
	Average lifespan (day)	**Average lifespan extensions (%)**	**Average lifespan (day)**	**Average lifespan extensions (%)**
control	46.34±1.22	0.00	42.18±1.12	0.00
DOE	46.77±0.86	0.92±0.38	42.48±1.22	0.72±0.15

Supplementary Table 16 Molecular weight of DOP

Peaks	**Mp (g/mol)**	**Mn (g/mol)**	**Mw (g/mol)**	**Mz (g/mol)**	**Mz+1 (g/mol)**
Peak 1	60920	28518	61327	96712	140251

Supplementary Table 17 Content detection of anthocyanin compounds

Substance	**Content μg/g**	**Linear equation**
Rutin	40.7848733	y = 3167.10737 x + 2768.42378
Quercetin-3-O-glucuronide	16.3497905	y = 6183.51163 x + 21920.53894
Kaempferol-3-O-rutinoside	0.70215725 4	y = 6183.51163 x + 21920.53894

Naringenin	4	0.11115705	y = 4.38422e4 x + 21202.58917
Delphinidin-3-O-rutinoside-5-O-glucoside	58	0.03115645	y = 3.62073e4 x + 4600.17059
Naringenin-7-O-glucoside	06	0.02784973	y = 6052.14483 x + 13442.20102
Cyanidin-3-(6-O-p-caffeoyl)-glucoside	81	0.02035541	y = 3.62073e4 x + 4600.17059
Daphnetin-3-O-glucoside	27	0.01448966	y = 1.46670e5 x + -23591.00081
Delphinidin-3-O-rutinoside	24	0.01270347	y = 8.13329e4 x + -17135.97679
Pelargonidin-3-O-(6-O-malonyl-β-D-glucoside)	17	0.00730377	y = 3.62073e4 x + 4600.17059
Delphinidin-3-O-(6-O-malonyl-β-D-glucoside)	06	0.005376791	y = 3.62073e4 x + 4600.17059
Cyanidin-3-O-(6-O-malonyl-β-D-glucoside)	22	0.002753083	y = 1.42967e5 x + 23953.76856
Petunidin-3-O-(6-O-malonyl-β-D-glucoside)	69	0.00196322	y = 3.62073e4 x + 4600.17059

Supplementary Table 18 The average lifespan and average lifespan extension of flies in DOE active ingredient screening experiments

group	**Female flies**		**Male flies**	
	Average	**Average**	**Average**	**Average**

	lifespan (day)	lifespan extensions (%)	lifespan (day)	lifespan extensions (%)
control	41.84±1.26	0.00	42.06±1.67	0.00
polysaccharide	47.21±1.88	12.84±0.32	48.60±1.42	15.56±0.19
protein	43.09±1.72	2.98±0.54	43.75±1.29	4.03±0.47
anthocyanin	42.63±1.56	1.90±0.36	42.39±1.58	0.80±0.45

Supplementary Table 19 Average lifespan and average lifespan extension of *CncC RNAi* flies after polysaccharide intervention

Intervention stage	Female flies		Male flies	
	Average lifespan (day)	Average lifespan extensions (%)	Average lifespan (day)	Average lifespan extensions (%)
control	42.59±1.65	0.00	39.26±1.69	0.00
polysaccharide	42.69±1.66	0.23±0.48	39.86±1.45	1.52±0.71

Supplementary Table 20 Average lifespan and average lifespan extension of *InR RNAi* flies after polysaccharide intervention

Intervention stage	Female flies		Male flies	
	Average lifespan (day)	Average lifespan extensions (%)	Average lifespan (day)	Average lifespan extensions (%)
control	46.62±1.25	0.00	42.15±1.45	0.00
polysaccharide	46.67±1.27	0.11±0.25	42.34±1.69	0.56±0.18

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