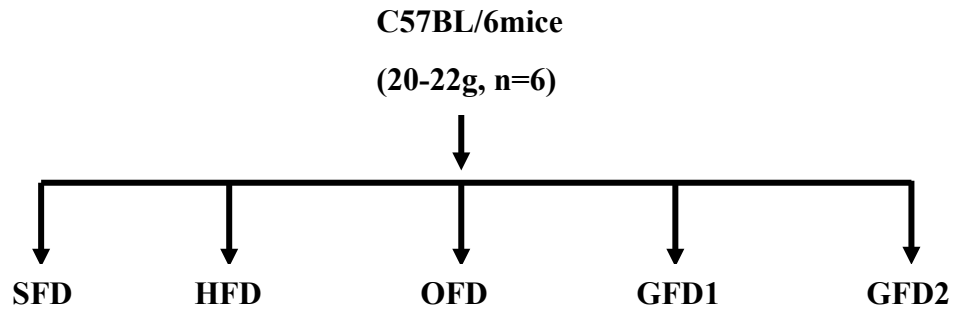
Supplementary data

Table S1: Diet composition of basal AIN-93 (g/kg diet)

Composition	SFD	HFD	OFD	GFD1	GFD2
Corn Starch	550	180	180	180	180
Casein	200	200	200	200	200
Sucrose	100	100	100	100	100
Soyabean Oil	70	-	-	-	-
Cellulose	50	50	50	50	50
Mineral Mix	35	35	35	35	35
Vitamin Mix	10	10	10	10	10
L- Methionine	3	3	3	3	3
Choline bitartarate	2	2	2	2	2
Lard	-	400	400	400	400
Cholesterol	-	20	20	20	20
Test compound	-	-	0.380	0.380	0.760

Abbreviations: SFD- Starch fed diet, HFD-High fat diet, OFD-orlistat fed diet (positive control), GFD1& 2: e-GAGs fed at 380 & 760 mg/kg diet along with high fat diet. Mineral and vitamin mixtures were followed according to (AIN-93)



Animal grouping

SFD- Starch fed diet group

HFD- High fat fed diet group

OFD- Orlistat fed diet group (380mg/kg diet) along with HFD

GFD1- e-GAGs fed diet group1 (380mg/kg diet) along with HFD

GFD2- e-GAGs fed diet group2 (760mg/kg diet) along with HFD

Figure. S1: Experimental design for the animal experiment

Table.S2: Effect of e-GAGs on cecum microbes. Cell count (CFU/g) of high fat fed C57BL/6 mice

Groups	LAB	*Bacillus*	*Coliforms*	*S.aureus*	*Clostridium*	*Camphylo*	*Bacteriodes*
SFD	12.77 ±0.01^{a}	9.69 ±0.00^{a}	9.16 ±0.01^{a}	7.57 ±0.02^{a}	5.61 ±0.00^{a}	5.95 ±0.00^{a}	7.86 ±0.01^{a}
HFD	12.12 ±0.01^{b}	9.91 ±0.00^{b}	9.28 ±0.02^{a}	7.86 ±0.01^{b}	5.87 ±0.00^{b}	6.18 ±0.00^{a}	5.74 ±0.01^{b}
OFD	12.46 ±0.00^{c}	9.84 ±0.00^{b}	9.21 ±0.02^{a}	7.69 ±0.01^{c}	5.70 ±0.00^{c}	6.11 ±0.00^{a}	6.77 ±0.01^{c}
GFD1	12.44 ±0.01^{c}	9.85 ±0.01^{b}	9.23 ±0.01^{a}	7.71 ±0.01^{c}	5.72 ±0.00^{c}	6.15 ±0.00^{a}	6.71 ±0.00^{c}
GFD2	12.58 ±0.00^{c}	9.79 ±0.00^{c}	9.22 ±0.58^{a}	7.70 ±0.01^{c}	5.69 ±0.01^{a}	6.12 ±0.00^{a}	6.79 ±0.03^{c}

Abbreviations for Animal groups. SFD; Starch Fed Diet, HFD; High Fat Diet (40% fat), OFD; Orlistat Fat Diet (380mg/kg diet), GFD1 & GFD2; Extracted GAGs Fed Diet 380 & 760mg/kg diet.

Data values are means ± SEM (n=6). Means in the table not sharing a common alphabet/superscript in column are significantly different at $P < 0.05$.