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**Supplemental Table 1. The contents of phospholipids in MFGM-PL.** The contents of phospholipids in MFGM-PL were determined using ultra-performance liquid chromatography and tandem mass spectrometry. Values were expressed as mean ± SEM, n=6. PC: Phosphatidylcholine; PE: Phosphatidylethanolamine; PA: Phosphatidic acid; PI: Phosphatidylinositol; PG: Phosphatidylglycerol; SM: Sphingomyelin; LPC: Lyso-Phosphatidylcholine; LPE: Lyso-Phosphatidylethanolamine.

Supplemental Table 2. Maternal body weight and serum biomarkers. Values were expressed as mean  $\pm$  SEM, n=6. The statistical analysis was performed using one-way ANOVA and Tukey's multiple-comparison test by SPSS software (version 20.0, IBM Inc., Chicago, IL, USA). Different letters indicate significant differences (P < 0.05). TC, total cholesterol; TG total triglyceride; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; LPS, lipopolysaccharide; TNF- $\alpha$ , tumor necrosis factor-alpha; IL-1 $\beta$ , interleukin-1 $\beta$ ; IL-6, interleukin-6.

Supplementary Figure 1. Maternal body weight after 8 weeks of high-fat diet before mating. Values were expressed as mean  $\pm$  SEM, n=6. The statistical analysis was performed using one-way ANOVA and Tukey's multiple-comparison test by SPSS software (version 20.0, IBM Inc., Chicago, IL, USA). Different letters indicate significant differences (P < 0.05).

**Supplemental Table 1** 

Phospholipid	Content (nmol/mg MFGM-PL)		
PC	22.79±0.40		
PE	17.40±0.27		
PA	20.46±4.04		
PI	1.76±0.05		
PG	$0.28 \pm 0.01$		
SM	5.71±0.15		
LPC	0.37±0.01		
LPE	0.57±0.01		

The contents of phospholipids in MFGM-PL were determined using ultra-performance liquid chromatography and tandem mass spectrometry. Values were expressed as mean ± SEM, n=6. PC: Phosphatidylcholine; PE: Phosphatidylethanolamine; PA: Phosphatidic acid; PI: Phosphatidylinositol; PG: Phosphatidylglycerol; SM: Sphingomyelin; LPC: Lyso-Phosphatidylcholine; LPE: Lyso-Phosphatidylethanolamine.

## **Supplemental Table 2**

	CON	CON+MFGM-PL	HFD	HFD+MFGM-PL
Body weight (g)	$341.84 \pm 10.24^{b}$	$345.17 \pm 10.64^{b}$	$386.12 \pm 14.44^{a}$	$346.76 \pm 8.77^{b}$
Serum insulin (ng/mL)	$1.06\pm0.05^{c}$	$1.00\pm0.06^{c}$	$1.68 \pm 0.03^{\mathrm{a}}$	$1.39 \pm 0.02^{b}$
Serum TC (mg/dL)	$1.65 {\pm}~0.05^{\circ}$	$1.72\pm0.12^{\text{c}}$	$3.65{\pm0.12}^{\mathrm{a}}$	$2.05\pm0.09^{b}$
Serum TG (mg/dL)	$0.59 \pm 0.06^{b}$	$0.54\pm0.05^{b}$	$1.91 {\pm}~0.36^a$	$0.62\pm0.04^{b}$
Serum LDL-C (mg/dL)	$0.21~\pm0.01^b$	$0.24\pm0.02^{b}$	$0.50\pm0.12^{\rm a}$	$0.28\pm0.03^{b}$
Serum HDL-C (mg/dL)	$1.28\pm0.06^a$	$1.22 \pm 0.06^a$	$0.82\pm0.09^{b}$	$1.25\pm0.12^a$
Serum LPS (EU/L)	$334.24 \pm 14.87^{b}$	$349.39 \pm 16.20^{b}$	$541.31 \pm 16.63^{\rm a}$	$353.43 \pm 7.64^{b}$
Serum TNF-α (pg/mL)	$74.43 \pm 1.49^{b}$	$73.08 \pm 5.91^{b}$	$90.91 \pm 2.32^{a}$	$75.04 \pm 3.54^{b}$
Serum IL-1 $\beta$ (pg/mL)	$23.55 \pm 1.61^{b}$	$23.10\pm1.09^{\text{b}}$	$41.19\pm1.62^{\mathrm{a}}$	$24.14\pm0.77^{\text{b}}$
Serum IL-6 (pg/mL)	$83.36 \pm 1.53^{b}$	$84.68 \pm 3.26^{b}$	$106.98 \pm 2.24^{\rm a}$	$86.23 \pm 3.76^{b}$

## **Supplementary Figure 1**

