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SUPPLEMENTARY DATA

Supplementary Table 1: Diet composition of the two animal studies (g/kg), based on AIN-93G specifications.

Ingredient	Mouse control	Mouse MFGM+	Rat control	Rat MFGM+
Casein	200.0	176.84	200.0	187.0
L-Cystine	3.0	3.0	3.0	3.0
Corn/maize starch	397.5	397.5	392.4	392.5
Maltodextrin	132.0	132.0	132.0	132.0
Sucrose	100.0	100.0	100.0	100.0
Lactose monohydrate	-	-	7.5	7.5
Soyabean oil	70.0	70.0	64.7	61.5
Cellulose	50.0	50.0	50.0	50.0
Mineral mix	35.0	35.0	27.6 ^a	27.8 ^a
Vitamin mix	10.0	10.0	15.0 ^b	15.0 ^b
Choline bitartrate	2.5	2.5	2.5	2.5
TBHQ/antioxidant	0.03	0.03	0.01	0.01
DHA/ARA oil	-	-	5.3	5.3
Whey protein concentrate MFGM-10	-	23.16	-	15.90

ARA=arachidonic acid; DHA=docosahexaenoic acid; MFGM=milk fat globule membrane; TBHQ=tertiary butylhydroquinone

^a Mineral mix (without Ca and P) + Calcium carbonate + Calcium phosphate dibasic

^b Vitamin mix AIN-93-VX, Thiamin HCl, Vitamin K1

Supplementary Table 2: Phospholipids across three classes, sphingomyelin, phosphatidylcholine and lysophosphatidylcholine, detected and quantified in the current targeted lipidomics experiment.

Lipid name	HMDB ID	Alternative name	Lipid class
SM(d18:1/24:1(15Z))	HMDB12107	C24:1 SM	SM
SM(d18:1/24:0)	HMDB11697	C24:0 SM	SM
SM(d18:1/23:1(9Z))	HMDB0240614	C23:1 SM	SM
SM(d18:1/23:0)	HMDB12105	C23:0 SM	SM
SM(d18:1/22:1(13Z))	HMDB12104	C22:1 SM	SM
SM(d18:1/22:0)	HMDB12103	C22:0 SM	SM
SM(d18:1/20:1(11Z))	HMDB0240610	C20:1 SM	SM
SM(d18:1/20:0)	HMDB12102	C20:0 SM	SM
SM(d18:1/18:1(9Z))	HMDB12101	C18:1 SM	SM
SM(d18:1/18:0)	HMDB01348	C18:0 SM	SM
SM(d18:1/16:0)	HMDB10169	C16:0 SM	SM
SM(d18:1/14:0)	HMDB12097	C14:0 SM	SM
SM(d18:0/16:1(9Z))	HMDB13464	C16:1 SM	SM
SM(d17:1/24:1(15Z))	HMDB11696	C24:2 SM	SM
PC(18:1(11Z)/22:6(4Z,7Z,10Z,13Z,16Z,19Z))	HMDB08090	C40:7 PC	PC
PC(18:0/22:6(4Z,7Z,10Z,13Z,16Z,19Z))	HMDB08057	C40:6 PC	PC
PC(18:0/22:5(4Z,7Z,10Z,13Z,16Z))	HMDB08055	C40:5 PC	PC
PC(18:0/22:4(7Z,10Z,13Z,16Z))	HMDB08054	C40:4 PC	PC
PC(16:1(9Z)/22:2(13Z,16Z))	HMDB08020	C38:3 PC	PC
PC(16:0/22:6(4Z,7Z,10Z,13Z,16Z,19Z))	HMDB07991	C38:6 PC	PC
PC(16:0/22:5(4Z,7Z,10Z,13Z,16Z))	HMDB07989	C38:5 PC	PC
PC(16:0/22:4(7Z,10Z,13Z,16Z))	HMDB07988	C38:4 PC	PC
PC(14:1(9Z)/24:1(15Z))	HMDB07927	C38:2 PC	PC
PC(14:1(9Z)/22:2(13Z,16Z))	HMDB07921	C36:3 PC	PC
PC(14:0/24:1(15Z))	HMDB07894	C38:1 PC	PC
PC(14:0/22:4(7Z,10Z,13Z,16Z))	HMDB07889	C36:4 PC	PC
PC(14:0/22:2(13Z,16Z))	HMDB07888	C36:2 PC	PC
PC(14:0/22:1(13Z))	HMDB07887	C36:1 PC	PC
PC(14:0/22:0)	HMDB07886	C36:0 PC	PC
PC(14:0/20:4(5Z,8Z,11Z,14Z))	HMDB07883	C34:4 PC	PC
PC(14:0/20:3(5Z,8Z,11Z))	HMDB07881	C34:3 PC- <i>sn1</i>	PC
PC(14:0/20:3(5Z,8Z,11Z))	HMDB07881	C34:3 PC- <i>sn2</i>	PC
PC(14:0/20:2(11Z,14Z))	HMDB07880	C34:2 PC	PC
PC(14:0/20:1(11Z))	HMDB07879	C34:1 PC	PC
PC(14:0/20:0)	HMDB07878	C34:0 PC	PC
PC(14:0/18:2(9Z,12Z))	HMDB07874	C32:2 PC	PC
PC(14:0/18:1(11Z))	HMDB07872	C32:1 PC	PC
PC(14:0/18:0)	HMDB07871	C32:0 PC	PC

Lipid name	HMDB ID	Alternative name	Lipid class
PC(14:0/16:1(9Z))	HMDB07870	C30:1 PC	PC
LysoPC(22:6(4Z,7Z,10Z,13Z,16Z,19Z))	HMDB10404	C22:6 LPC- <i>sn1</i>	LysoPC
LysoPC(22:6(4Z,7Z,10Z,13Z,16Z,19Z))	HMDB10404	C22:6 LPC- <i>sn2</i>	LysoPC
LysoPC(22:5(4Z,7Z,10Z,13Z,16Z))	HMDB10402	C22:5 LPC- <i>sn1</i>	LysoPC
LysoPC(20:4(5Z,8Z,11Z,14Z))	HMDB10395	C20:4 LPC- <i>sn1</i>	LysoPC
LysoPC(20:4(5Z,8Z,11Z,14Z))	HMDB10395	C20:4 LPC- <i>sn2</i>	LysoPC
LysoPC(20:3(5Z,8Z,11Z))	HMDB10393	C20:3 LPC- <i>sn1</i>	LysoPC
LysoPC(20:2(11Z,14Z))	HMDB10392	C20:2 LPC- <i>sn1</i>	LysoPC
LysoPC(20:1(11Z))	HMDB10391	C20:1 LPC- <i>sn1</i>	LysoPC
LysoPC(20:0)	HMDB10390	C20:0 LPC- <i>sn1</i>	LysoPC
LysoPC(18:2(9Z,12Z))	HMDB10386	C18:2 LPC- <i>sn1</i>	LysoPC
LysoPC(18:2(9Z,12Z))	HMDB10386	C18:2 LPC- <i>sn2</i>	LysoPC
LysoPC(18:1(11Z))	HMDB10385	C18:1 LPC- <i>sn1</i>	LysoPC
LysoPC(18:1(11Z))	HMDB10385	C18:1 LPC- <i>sn2</i>	LysoPC
LysoPC(16:1(9Z))	HMDB10383	C16:1 LPC- <i>sn1</i>	LysoPC
LysoPC(16:0)	HMDB10382	C16:0 LPC- <i>sn1</i>	LysoPC
LysoPC(16:0)	HMDB10382	C16:0 LPC- <i>sn2</i>	LysoPC
LysoPC(14:0)	HMDB10379	C14:0 LPC- <i>sn1</i>	LysoPC
LysoPC(0:0/18:0)	HMDB11128	C18:0 LPC- <i>sn1</i>	LysoPC
LysoPC(0:0/18:0)	HMDB11128	C18:0 LPC- <i>sn2</i>	LysoPC

HMDB=Human Metabolome Database; ID=identification; LysoPC=lysophosphatidylcholine; PC=phosphatidylcholines; SM=sphingomyelin