

1 **Table S1** Fatty acid composition expressed as percent by weight of total fatty acids.

		Laboratory scale			Production scale		
		Milk fat	MSFAT	Retentate	Milk fat	MSFAT	Retentate
		----- (%) -----			----- (%) -----		
SCFA	C4	4.37 ± 0.08	10.23 ± 0.00	3.57 ± 0.00	4.30 ± 0.11	10.11 ± 0.19	3.59 ± 0.11
	C6	3.04 ± 0.04	5.67 ± 0.07	2.74 ± 0.02	2.83 ± 0.05	5.32 ± 0.08	2.48 ± 0.07
	C8	1.68 ± 0.01	3.64 ± 0.06	1.46 ± 0.02	1.53 ± 0.01	2.98 ± 0.04	1.30 ± 0.03
MCFA	C10	3.73 ± 0.01	6.79 ± 0.06	3.29 ± 0.03	3.19 ± 0.01	5.58 ± 0.05	2.81 ± 0.03
	C11	0.09 ± 0.00	0.16 ± 0.00	0.08 ± 0.00	0.06 ± 0.00	0.11 ± 0.00	0.05 ± 0.00
	C12	4.25 ± 0.01	7.35 ± 0.03	3.74 ± 0.03	3.60 ± 0.01	6.11 ± 0.04	3.24 ± 0.04
LCFA	C13	0.13 ± 0.00	0.19 ± 0.00	0.12 ± 0.00	0.11 ± 0.00	0.16 ± 0.00	0.10 ± 0.00
	C4	11.22 ± 0.00	15.09 ± 0.02	10.45 ± 0.05	11.07 ± 0.01	15.25 ± 0.07	10.64 ± 0.11
	C14:1	0.83 ± 0.00	0.83 ± 0.00	0.85 ± 0.00	1.02 ± 0.00	0.95 ± 0.01	0.97 ± 0.01
	C15	0.98 ± 0.00	1.14 ± 0.00	0.94 ± 0.00	1.03 ± 0.00	1.26 ± 0.01	1.02 ± 0.01
	C16	30.18 ± 0.11	27.83 ± 0.06	30.01 ± 0.03	29.78 ± 0.06	30.14 ± 0.21	30.72 ± 0.39
	C16:1	1.22 ± 0.00	0.98 ± 0.00	1.29 ± 0.00	1.59 ± 0.00	1.28 ± 0.01	1.52 ± 0.02
	C17	0.42 ± 0.00	0.30 ± 0.00	0.43 ± 0.01	0.49 ± 0.00	0.38 ± 0.00	0.52 ± 0.01
	C18	12.13 ± 0.07	6.85 ± 0.06	12.76 ± 0.01	10.2 ± 0.06	5.69 ± 0.06	11.28 ± 0.17
	C18:1 trans	0.05 ± 0.00	0.02 ± 0.00	0.05 ± 0.00	0.03 ± 0.00	0.01 ± 0.01	0.03 ± 0.00
	C18:1 n9 trans	0.72 ± 0.01	0.35 ± 0.07	0.78 ± 0.00	0.36 ± 0.01	0.24 ± 0.04	0.38 ± 0.01
	C18:1 n11 trans	2.46 ± 0.00	1.20 ± 0.06	2.66 ± 0.00	1.88 ± 0.02	0.86 ± 0.04	1.96 ± 0.02
	C18:1 n9 cis	18.75 ± 0.10	9.38 ± 0.05	20.64 ± 0.00	22.30 ± 0.11	11.06 ± 0.11	22.18 ± 0.29
	C18:2 n6 trans	0.00 ± 0.01	0.00 ± 0.00	0.00 ± 0.02	0.01 ± 0.01	0.00 ± 0.00	0.02 ± 0.01
	C18:2 n6 cis	1.66 ± 0.02	0.82 ± 0.01	1.84 ± 0.01	1.92 ± 0.00	0.95 ± 0.02	1.90 ± 0.03
	C20	0.18 ± 0.01	0.06 ± 0.00	0.20 ± 0.00	0.15 ± 0.01	0.03 ± 0.00	0.18 ± 0.00
	C18:3 n6	0.02 ± 0.04	0.02 ± 0.00	0.02 ± 0.02	0.05 ± 0.01	0.07 ± 0.03	0.06 ± 0.01
	C20:1	0.10 ± 0.01	0.03 ± 0.00	0.11 ± 0.10	0.21 ± 0.03	0.06 ± 0.02	0.24 ± 0.06
	C18:3 n3	0.53 ± 0.01	0.28 ± 0.00	0.58 ± 0.04	0.68 ± 0.01	0.39 ± 0.03	0.67 ± 0.03
	CLA 9.11	0.62 ± 0.01	0.22 ± 0.00	0.70 ± 0.01	0.63 ± 0.00	0.22 ± 0.01	0.64 ± 0.02
	C21	0.02 ± 0.01	0.00 ± 0.00	0.05 ± 0.01	0.05 ± 0.00	0.00 ± 0.00	0.06 ± 0.01
C20:2	0.01 ± 0.00	0.00 ± 0.01	0.00 ± 0.00	0.03 ± 0.00	0.00 ± 0.00	0.03 ± 0.00	
C22	0.05 ± 0.00	0.00 ± 0.00	0.05 ± 0.00	0.10 ± 0.01	0.02 ± 0.00	0.10 ± 0.00	
C20:3 n6	0.07 ± 0.00	0.02 ± 0.00	0.08 ± 0.00	0.08 ± 0.00	0.02 ± 0.00	0.08 ± 0.00	
C22:1 n9	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.01	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	
C20:3 n3	0.00 ± 0.00	0.00 ± 0.01	0.00 ± 0.00	0.01 ± 0.01	0.10 ± 0.01	0.00 ± 0.00	
C20:4 n6	0.11 ± 0.00	0.03 ± 0.00	0.13 ± 0.00	0.12 ± 0.00	0.01 ± 0.01	0.09 ± 0.06	
C23:0	0.01 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.02 ± 0.01	0.03 ± 0.06	
C22:2	0.03 ± 0.01	0.01 ± 0.01	0.04 ± 0.00	0.06 ± 0.01	0.05 ± 0.02	0.06 ± 0.01	
C24:0	0.08 ± 0.05	0.18 ± 0.00	0.08 ± 0.00	0.09 ± 0.02	0.00 ± 0.00	0.11 ± 0.05	
C20:5 n3	0.08 ± 0.02	0.21 ± 0.02	0.09 ± 0.01	0.07 ± 0.05	0.08 ± 0.11	0.11 ± 0.03	
C24:1	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.02	0.02 ± 0.04	0.00 ± 0.00	0.01 ± 0.01	
C22:6 n3	0.00 ± 0.13	0.00 ± 0.00	0.00 ± 0.00	0.06 ± 0.07	0.30 ± 0.48	0.55 ± 0.85	
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	SFCA	6.90 ± 0.12	6.1 ± 0.11	15.0 ± 0.38	7.13 ± 0.16	15.43 ± 0.27	6.07 ± 0.19
	MCFA	10.1 ± 0.22	9.2 ± 0.13	20.2 ± 0.81	8.37 ± 0.03	14.78 ± 0.13	7.40 ± 0.10
	LCFA Saturated	57.3 ± 1.17	58.5 ± 1.14	51.1 ± 1.35	53.07 ± 0.18	52.96 ± 0.37	54.76 ± 0.81
	LCFA Monounsaturated	22.8 ± 1.46	23.1 ± 0.95	12.3 ± 1.25	27.4 ± 0.21	14.46 ± 0.23	27.27 ± 0.44
	LCFA Polyunsaturated	3.0 ± 0.55	3.0 ± 0.45	1.4 ± 0.36	3.72 ± 0.18	2.19 ± 0.72	4.22 ± 1.05