

1 Supplementary Table 1. Summary of identified suggestive QTLs for fatty acid composition

SSC	Trait	Position	F-ratio <sup>1</sup>	Inheritance of MODE <sup>2</sup>	%Var <sup>3</sup>	SI marker interval <sup>4</sup>	Reference <sup>5</sup>
1	C10:0	167	8.6 <sup>†</sup>	A	0.9	SWI957-SWI307	
	C16:1	123	9.6 <sup>†</sup>	A	1.0	SW962-SWI957	
	C17:1	167	7.5 <sup>†</sup>	AD	1.5	SW373-SWI301	
	C18:2	111	6.5 <sup>†</sup>	AD	1.3	SWI417-SWI301	Ramayo-Caldas et al (2012)
	C20:4	167	8.4 <sup>†</sup>	AD	1.7	SW974-SWI301	
	MUFA	0	12.8 <sup>†</sup>	A	1.3	SWI514-SWI515	
	PUFA	167	6.5 <sup>†</sup>	AD	1.3	SW2035-SWI301	Ramayo-Caldas et al (2012)
	C17:1	10	12.1 <sup>†</sup>	A	1.2	SW2623-SW776	
	C18:3	17	8.1 <sup>†</sup>	A	0.8	SW2623-S0370	
	C20:0	105	8.2 <sup>†</sup>	A	0.8	SW2623-SWI879	
2	C20:4	23	6.9 <sup>†</sup>	A	0.7	SW2623-SWI879	
	SFA	25	11.7 <sup>†</sup>	A	1.2	SW2623-S0370	
	UFA	22	10.3 <sup>†</sup>	A	1.1	SW2623-SWI879	
	C12:0	0	13.5 <sup>†</sup>	A	1.4	APR22-SW2021	
	C18:3	69	8.1 <sup>†</sup>	A	0.8	APR22-SWI327	
	C16:1	88	6.1 <sup>†</sup>	AD	1.3	SW489-MP77	Pérez-Enciso et al (2000) and Ramayo-Caldas et al (2012)
4	C18:0	93	7.4 <sup>†</sup>	AD	1.5	SWI364-MP77	
	C18:1	44	7.7 <sup>†</sup>	A	0.8	SW489-MP77	Pérez-Enciso et al (2000), Ni et al (2006), Guo et al (2009), Uemoto et al (2009), Ramayo-Caldas et al (2012) and Uemoto et al (2012)
	C18:2	44	6.9 <sup>†</sup>	A	0.7	SW489-MP77	Pérez-Enciso et al (2000), Clopet al (2003), Kim et al (2006), Ni et al (2006), Guo et al (2009), Ramayo-Caldas et al (2012) and Uemoto et al (2012)
	MUFA	42	6.9 <sup>†</sup>	A	0.7	SW489-MP77	Guo et al (2009) and Ramayo-Caldas et al (2012)
	C12:0	101	8.4 <sup>†</sup>	A	0.9	SW2003-SW967	
5	C18:2	123	7.1 <sup>†</sup>	A	0.7	SW2003-SW967	
	C20:0	122	8.8 <sup>†</sup>	A	0.9	SW963-SW967	
	C12:0	14	7.9 <sup>†</sup>	AD	1.6	S0035-SWI057	
6	C17:1	79	9.1 <sup>†</sup>	A	0.9	SW2406-S0059	
	C18:1	79	9.6 <sup>†</sup>	A	1.0	APR8-SWI055	Ramayo-Caldas et al (2012)
	C18:2	79	12.2 <sup>†</sup>	A	1.3	APR8-SWI22	Ramayo-Caldas et al (2012)
	MUFA	79	8.3 <sup>†</sup>	A	0.9	APR8-SWI055	Lee et al (2010) and Ramayo-Caldas et al (2012)
	PUFA	79	12.2 <sup>†</sup>	A	1.3	APR8-S0059	Lee et al (2010)
	C14:0	134	8.8 <sup>†</sup>	A	0.9	SWI47-SW764	
7	C18:3	94	10.5 <sup>†</sup>	A	0.7	SWI369-SW764	Guo et al (2009)
	PUFA	62	12.8 <sup>†</sup>	A	1.3	SWI369-SW2108	Guo et al (2009)
8	C12:0	116	9.9 <sup>†</sup>	A	1.0	SWI345-KS188	
	MUFA	4	7.4 <sup>†</sup>	A	0.8	SW2410-SW444	
9	C10:0	145	6.0 <sup>†</sup>	AD	1.2	SW2093-SW749	
	C16:1	145	7.7 <sup>†</sup>	AD	1.6	SW2093-SW749	
10	C16:0	54	9.1 <sup>†</sup>	A	1.0	SWI36-SW2000	Uemoto et al (2012)
11	C12:0	47	5.3 <sup>†</sup>	AD	1.1	SWI460-SWI135	

	C18:1	61	6.5 <sup>†</sup>	A	0.7	<i>SWI460-SWI135</i>	
	MUFA	61	7.2 <sup>†</sup>	A	0.7	<i>SWI460-SWI135</i>	
12	C16:1	115	12.9 <sup>†</sup>	A	1.3	<i>S0106-SWR1021</i>	
13	C10:0	62	9.3 <sup>†</sup>	A	1.0	<i>S0288-SW38</i>	
	C16:1	74	12.5 <sup>†</sup>	A	1.3	<i>SWI407-SW38</i>	Guo et al (2009)
	C18:2	29	9.4 <sup>†</sup>	A	1.0	<i>SWR1941-SW38</i>	
	C20:0	24	6.4 <sup>†</sup>	AD	1.3	<i>SWR1941-S0215</i>	
	C20:1	29	10.5 <sup>†</sup>	A	1.1	<i>SWI378-S0283</i>	
	PUFA	29	8.0 <sup>†</sup>	A	0.8	<i>SWR1941-SW38</i>	
14	C10:0	64	10.0 <sup>†</sup>	A	1.0	<i>SW2038-SW2515</i>	
	C17:0	58	8.7 <sup>†</sup>	A	0.9	<i>SW2038-SW2515</i>	
	C20:4	14	6.9 <sup>†</sup>	A	0.7	<i>SW857-SW2515</i>	
15	C20:0	78	9.1 <sup>†</sup>	A	0.9	<i>SWI989-S0040</i>	
	C20:1	130	6.7 <sup>†</sup>	AD	1.4	<i>SW936-SWR2121</i>	
	MUFA	141	6.0 <sup>†</sup>	AD	1.2	<i>KSI35-SWR2121</i>	
16	C12:0	43	5.9 <sup>†</sup>	AD	1.2	<i>SW419-SW2517</i>	
	C17:0	59	6.5 <sup>†</sup>	AD	1.3	<i>SWI809-S0105</i>	
	C17:1	54	8.0 <sup>†</sup>	AD	1.6	<i>SW419-SW2517</i>	
	C18:1	55	7.3 <sup>†</sup>	AD	1.5	<i>SWI035-SWI1897</i>	
	C18:2	53	5.0 <sup>†</sup>	AD	1.0	<i>SWI035-SWI1897</i>	
	C20:4	41	7.1 <sup>†</sup>	AD	1.5	<i>SW419-SW2517</i>	
	MUFA	56	6.8 <sup>†</sup>	AD	1.4	<i>SWI035-SWI1897</i>	
	PUFA	52	5.6 <sup>†</sup>	AD	1.2	<i>SWI035-SWI1897</i>	
17	C10:0	11	11.1 <sup>†</sup>	A	1.1	<i>SWI031-SW2142</i>	
18	C10:0	22	6.7 <sup>†</sup>	AD	1.4	<i>SY4-S0062</i>	
	C16:1	24	10.2 <sup>†</sup>	A	1.1	<i>SY4-SB58</i>	

<sup>1</sup>Test statistic and level of significance: <sup>†</sup>suggestive 5% significance.

<sup>2</sup>A represents additive effect; AD represents additive and dominance effects.

<sup>3</sup>Flanking markers for 95% support intervals estimated by the 1.5-LOD drop method.

<sup>4</sup>Var % is the reduction in residual variance of the F<sub>2</sub> population obtained by inclusion of a QTL at the given position.

<sup>5</sup>Papers reporting QTL with similar effects at comparable positions in PigQTLdb.

## References

- Clop, A., C. Ovilo, M. Perez-Enciso, A. Cercos, A. Tomas, A. Fernandez, A. Coll, J. M. Folch, C. Barragan, I. Diaz I., M. A. Oliver, L. Varona, L. Silio, A. Sanchez and J. L. Noguera. 2003. Detection of QTL affecting fatty acid composition in the pig. Mamm. Genome 14: 650-656.

- 1 Guo, T., J. Ren, K. Yang, J. Ma, Z. Zhang and L. Huang L. 2009. Quantitative trait loci for  
2 fatty acid composition in longissimus dorsi and abdominal fat: results from a White  
3 Duroc x Erhualian intercross F2 population. *Anim. Genet.* 40: 185-191.
- 4 Kim, Y., M. Kong, Y. J. Nam and C. Lee. 2006. A quantitative trait locus for oleic fatty acid  
5 content on *Sus scrofa* chromosome 7. *J. Hered.* 97: 535-537.
- 6 Lee, S.H., Y. M. Choi, J. H. Choe, J. M. Kim, K. C. Hong, H. C. Park and B. C. Kim. 2010.  
7 Association between polymorphisms of the heart fatty acid binding protein gene and  
8 intramuscular fat content, fatty acid composition, and meat quality in Berkshire breed.  
9 *Meat Sci.* 86: 794-800.
- 10 Nii, M., T. Hayashi, F. Tani, A. Niki, N. Mori, N. Fujishima-Kanaya, M. Komatsu, K.  
11 Aikawa, T. Awata and S. Mikawa S. Quantitative trait loci mapping for fatty acid  
12 composition traits in perirenal and back fat using a Japanese wild boar x Large White  
13 intercross. *Anim. Genet.* 37: 342-347.
- 14 Pérez-Enciso, M., A. Clop, J. L. Noguera, C. Ovilo, A. Coll, J. M. Folch, D. Babot, J. Estany,  
15 M. A. Oliver, I. Díaz and A. Sánchez. 2000. A QTL on pig chromosome 4 affects  
16 fatty acid metabolism: evidence from an Iberian by Landrace intercross. *J. Anim. Sci.*  
17 78: 2525-2531.
- 18 Ramayo-Caldas, Y., A. Mercadé, A. Castelló, B. Yang, C. Rodríguez, E. Alves, I. Díaz, N.  
19 Ibáñez-Escriche, J. L. Noguera, M. Pérez-Enciso, A. I. Fernández and J. M. Folch.  
20 2012. Genome-wide association study for intramuscular fatty acid composition in an  
Iberian × Landrace cross. *J. Anim. Sci.* 90: 2883-2893.
- 22 Uemoto, Y., S. Sato, C. Ohnishi, S. Terai, A. Komatsuda and E. Kobayashi. 2009. The effects  
23 of single and epistatic quantitative trait loci for fatty acid composition in a Meishan x  
24 Duroc crossbred population. *J. Anim. Sci.* 87: 3470-3476.
- 25 Uemoto, Y., Y. Soma, S. Sato, M. Ishida, T. Shibata, H. Kadowaki, E. Kobayashi and K.  
26 Suzuki K. 2012. Genome-wide mapping for fatty acid composition and melting point  
27 of fat in a purebred Duroc pig population. *Anim. Genet.* 43: 27-34.
- 28