

**supplemental Table S5:** Interaction between *ELOVL5* haplotype and DHA intake on breastmilk PUFA level

	LA		GLA		DGLA		AA		DTA		ALA		EPA		DHA	
	coef	<i>P</i>	coef	<i>P</i>	coef	<i>P</i>	coef	<i>P</i>	coef	<i>P</i>	coef	<i>P</i>	coef	<i>P</i>	coef	<i>P</i>
Q <sub>1</sub> <sup>a</sup>	Reference															
Q <sub>2</sub> <sup>a</sup>	-0.0144	0.790	-0.0144	0.406	-0.0023	0.78	0.0005	0.967	-0.0004	0.891	-0.0327	0.128	-0.0102	0.246	-0.0193	0.342
Q <sub>3</sub> <sup>a</sup>	0.0394	0.461	-0.0136	0.429	0.0067	0.408	0.0143	0.207	0.0022	0.42	-0.0012	0.954	-0.0109	0.210	0.0222	0.27
Q <sub>4</sub> <sup>a</sup>	-0.0450	0.374	-0.0126	0.437	-0.0072	0.345	-0.0136	0.204	-0.0024	0.351	-0.0223	0.267	-0.0020	0.812	0.0036	0.851
H <sub>1</sub> <sup>b</sup>	Reference															
H <sub>2</sub> <sup>b</sup>	0.0102	0.756	-0.0025	0.816	0.0065	0.194	0.0052	0.456	0.0022	0.183	-0.0051	0.697	-0.0043	0.422	0.0035	0.782
H <sub>3</sub> <sup>b</sup>	-0.0086	0.886	0.0081	0.672	0.0031	0.736	-0.0043	0.735	-0.0011	0.721	-0.0034	0.886	-0.0106	0.273	-0.0172	0.473
H <sub>4</sub> <sup>b</sup>	-0.0496	0.424	-0.0283	0.154	-0.0039	0.684	-0.0118	0.369	-0.0009	0.785	-0.0318	0.198	-0.0095	0.341	-0.0161	0.484
H <sub>5</sub> <sup>b</sup>	-0.0546	0.376	-0.0280	0.157	-0.0098	0.295	-0.0145	0.264	-0.0040	0.205	-0.0131	0.595	-0.0168	0.095	-0.0329	0.157
Q <sub>1</sub> -H <sub>1</sub> <sup>c</sup>	Reference															
Q <sub>2</sub> -H <sub>2</sub> <sup>c</sup>	0.0215	0.649	0.0109	0.471	0.0008	0.909	0.0004	0.971	-0.0001	0.972	0.0294	0.117	0.0055	0.472	0.0221	0.214
Q <sub>3</sub> -H <sub>2</sub> <sup>c</sup>	-0.0107	0.821	0.0097	0.52	-0.0056	0.437	-0.0069	0.49	-0.0011	0.637	0.0119	0.526	0.0074	0.337	-0.0188	0.29
Q <sub>4</sub> -H <sub>2</sub> <sup>c</sup>	0.0024	0.958	-0.0020	0.89	-0.0014	0.837	0.0053	0.586	-0.0007	0.763	0.0129	0.479	-0.0041	0.582	-0.0147	0.396
Q <sub>2</sub> -H <sub>3</sub> <sup>c</sup>	0.0239	0.762	-0.0072	0.776	0.0015	0.899	0.0065	0.698	0.0021	0.601	0.0185	0.556	0.0061	0.63	0.0191	0.533

Q <sub>3</sub> -H <sub>3</sub> <sup>c</sup>	0.0013	0.987	0.0029	0.909	-0.0014	0.904	-0.0041	0.805	0.0003	0.94	-0.0010	0.976	0.0150	0.239	0.0085	0.781
Q <sub>4</sub> -H <sub>3</sub> <sup>c</sup>	0.1416	0.071	0.0091	0.709	0.0123	0.298	0.0293	0.077	0.0055	0.164	0.0580	0.063	0.0157	0.225	0.0439	0.144
Q <sub>2</sub> -H <sub>4</sub> <sup>c</sup>	0.0341	0.699	0.0213	0.455	0.0030	0.829	0.0093	0.615	0.0003	0.953	0.0679	0.053	0.0072	0.611	0.0434	0.185
Q <sub>3</sub> -H <sub>4</sub> <sup>c</sup>	-0.0251	0.778	0.0261	0.361	-0.0146	0.281	-0.0130	0.488	-0.0029	0.527	-0.0100	0.776	0.0062	0.663	-0.0290	0.38
Q <sub>4</sub> -H <sub>4</sub> <sup>c</sup>	0.1994	0.068	0.0603	0.084	0.0385	0.020	0.0326	0.159	0.0046	0.409	0.0998	0.022	0.0359	0.042	0.0621	0.129
Q <sub>2</sub> -H <sub>5</sub> <sup>c</sup>	0.1158	0.238	0.0250	0.452	0.0318	0.036	0.0382	0.069	0.0083	0.099	0.0527	0.182	0.0424	0.011	0.0550	0.141
Q <sub>3</sub> -H <sub>5</sub> <sup>c</sup>	0.0526	0.651	0.0456	0.202	0.0149	0.383	0.0060	0.801	0.0020	0.73	0.0411	0.393	0.0056	0.756	0.0581	0.165
Q <sub>4</sub> -H <sub>5</sub> <sup>c</sup>	-0.0068	0.944	0.0446	0.162	0.0059	0.694	0.0029	0.887	0.0020	0.695	-0.0055	0.885	0.0393	0.015	0.0600	0.124

*ELOVL5*, elongase gene 5 of the very long chain fatty acid. PUFA, long chain polyunsaturated fatty acids; LA, linoleic acid; GLA,  $\gamma$ -linolenic acid; DGLA, dihomogamma-linolenic acid; ARA, arachidonic acid; DTA, docosatetraenoic acid; ALA,  $\alpha$ -linolenic acid; EPA, eicosapentaenoic acid; DHA, docosahexaenoic acid.

<sup>a</sup> Q means the quartile level of DHA intake: Q<sub>1</sub>: <14.58 mg/day (reference); Q<sub>2</sub>: 14.58–43.15 mg/day; Q<sub>3</sub>: 43.16–118.82 mg/day; Q<sub>4</sub>:  $\geq$ 118.82 mg/day.

<sup>b</sup> H means the type of haplotype in *ELOVL5*; H<sub>1</sub>: C-A-C-G-A (reference); H<sub>2</sub>: A-G-G-A-A; H<sub>3</sub>: C-A-C-A-T; H<sub>4</sub>: A-A-C-A-A; H<sub>5</sub>: C-A-C-A-A; Haplotypes are named according to its frequency.

<sup>c</sup> Q-H means the effect of interaction between DHA intake and haplotype on PUFA levels compared with reference.