

SUPPLEMENTARY MATERIALS

1. Diet analyses

When provided in the TG form, both ARA and DHA were analyzed to contain the correct formulated concentrations, suggesting there were no issues with diet manufacturing. All diet samples were collected shortly after initiating the live-animal study and stored in airtight glass containers away from light and at -20°C until analysis. Given these quality controls to preserve the integrity of the diet samples, we have no definitive evidence to suggest the test articles degraded.

Table S1. ARA and DHA content of MR powders (mg/g)¹

	Treatment	TT	NaT	KT	Na0	NaNa
	ARA	TG	Na-salt	K-salt	Na-salt	Na-salt
Item	DHA	TG	TG	TG	-	Na-salt
ARA		0.82	1.15	0.21	0.19	0.02
DHA		0.51	0.49	0.52	ND	ND

¹Diets were manufactured as custom blends formulated by TestDiet (St. Louis, MO). All pigs received allotted treatment from PND 2 to PND 23. Abbreviations: ARA, arachidonic acid; DHA, docosahexaenoic acid; MR, milk replacer; ND, not detectable; TG, triglyceride. Values are numerical averages from three independent analyses. Samples were analyzed in duplicate or greater within each run for a total of eight individual sample analyses.

2. Liver Histology

Table S2. Liver histology of pigs receiving experimental milk replacers with different sources of ARA¹

	Diet	TT	NaT	KT	Na0	NaNa	Pooled	Model
Outcome	ARA/DHA ²	0.47/0.32	0.47/0.32	0.47/0.32	0.47/0.00	0.47/0.32	SEM	P-value
Necrosis		ND	ND	ND	ND	ND	-	-
Lipid ³		0.50	0.09	0.05	0.25	0.21	0.259	0.386
Vacuolization ⁴		3.50	3.50	3.42	3.31	2.91	0.278	0.526
Inflammation		0.42	0.25	0.17	0.30	0.10	0.139	0.442
Biliary		0.50	0.42	0.49	0.52	0.09	0.167	0.169
Fibrosis		ND	ND	ND	ND	ND	-	-
EMH		1.34	1.34	1.82	1.52	1.47	0.243	0.383

¹Values represent least square means of 11-13 pigs per treatment group at PND 23. Abbreviations: ARA, arachidonic acid; DHA, docosahexaenoic acid; EMH, extra medullary hematopoiesis; ND, not detected; SEM, standard error of the mean.

²Formulated dietary ARA and DHA content (% of total fatty acids).

³Scored using the following scale: 1 = mild, 2 = moderate, 3 = marked, 4 = severe.

⁴Score using the following scale: 1 = minimal, 2 = mild, 3 = moderate, 4 = marked.