

Table S1 Fat and protein content in spray-dried and frozen-dried powder

Group	Fat content (g/100g)	Protein content (g/100g)
Spray-dried whole milk powder	26.5	20
Frozen-dried whole milk powder	26	22

Table S2 Formula of diets containing milk powder at different degrees of oxidation ^a

Ingredient (g/ kg diet)	SWM	FWM	FWM+LDT	FWM+HDT
Spray-dried milk powder	700	0	0	0
Frozen-dried milk powder	0	636.36	636.36	636.36
Dityrosine	0	0	0.0014	0.0028
Dextrinized cornstarch	100.70	144.29	144.29	144.29
Sucrose	100	100	100	100
Soybean oil	0	20.05	20.05	20.05
Fiber	50	50	50	50
Minerals mix	35	35	35	35
Vitamins mix	10	10	10	10
L-Cysteine	1.80	1.80	1.80	1.80
Choline chloride	2.50	2.50	2.50	2.50

^a The diet formula is slightly modified with reference to the AIN-93M. 180 °C inlet air temperature spray-dried milk powder content of 20g/100g protein, 26.5g/100g fat, and 1400pg/mg prot DT. Frozen-dried whole milk powder content of 22g/100g protein and 26g/100g fat. FWM+LDT group added 5 times DT higher than the SWM group is 1.4mg/kg, FWM+HDT group add 10 times higher DT than the SWM group is 2.8mg/kg.

Table S3 Morris water maze platform location and starting direction

	Day 1	Day2	Day3	Day4	Day5	Day6	
	Platform location	Starting direction	Platform Location: SW Starting Location as follows:				No platform.
Trial 1	SW	S	W	N	S	E	N
Trial 2	NW	N	S	W	E	N	
Trial 3	NE	S	N	E	W	S	
Trial 4	SE	W	E	S	N	W	