

Regression type: Least squares																																								
Dependent variable	IgM anti-ACT										IgM anti-DNA										IgM anti-TNP										IgM anti-LPS									
Analysis of Variance	SS	DF	MS	F (DFn, DFd)	P value						SS	DF	MS	F (DFn, DFd)	P value						SS	DF	MS	F (DFn, DFd)	P value															
Regression	6.488	12	0.5407	F (12, 28) = 2.497	P=0.0226						5.582	12	0.4652	F (12, 28) = 2.388	P=0.0283						8.957	12	0.7464	F (12, 28) = 2.145	P=0.0472															
Residual	6.062	28	0.2165											5.756	28	0.2057						6.319	28	0.2255																
Total	12.55	40	0.3136											11.34	40	0.2844						16.22	40	0.4055																
Parameter estimates	Variable	Estimate	Standard error	95% CI (asymptotic)	t	P value	P value summary					Estimate	Standard error	95% CI (asymptotic)	t	P value	P value summary					Estimate	Standard error	95% CI (asymptotic)	t	P value	P value summary													
[0]	Intercept	-0.4245	3.747	-10.100 to 7.251	0.1133	0.9106	ns					2.308	3.554	-4.972 to 9.589	0.6485	0.5213	ns					-0.3746	3.664	-7.880 to 7.131	0.1022	0.9193	ns	-8.562	3.824	-16.41 to -0.7490	2.244	0.0329	**							
	Season(3)	3.187	0.948	-0.948 to 13.32	0.6442	0.5247	ns					1.553	0.693	-0.800 to 11.17	0.3309	0.7432	ns					3.308	0.838	-0.902 to 12.52	0.6218	0.5591	ns	3.725	0.549	-3.018 to 17.87	1.451	0.158	ns							
	Season(1)	-1.615	0.527	-21.13 to 17.90	0.1695	0.8666	ns					-27.81	13.307	-57.33 to 2.707	1.03	0.312	ns					3.303	0.937	-32.01 to 41.153	1.388	0.1761	ns	-32.41	9.718	-51.86 to -12.95	1.285	0.2002	ns							
	Season(2)	1.876	0.583	-0.047 to 16.105	0.9271	0.3618	ns					0.2907	0.1064	-0.199 to 10.787	0.0682	0.851	ns					4.6	0.573	-6.202 to 15.40	0.8723	0.3962	ns	12.89	0.504	1.618 to 24.17	2.342	0.0285	**							
	Breed(1)	-1.689	3.47	-8.789 to 5.420	0.4867	0.6303	ns					-2.775	3.262	-9.517 to 3.368	0.8429	0.4084	ns					0.07704	3.393	-6.874 to 7.028	0.0227	0.982	ns	8.833	3.542	-0.8518 to 13.46	1.808	0.0814	ns							
	EPEF	0.03384	0.01217	-0.02109 to 0.03878	0.3158	0.7545	ns					-0.03082	0.01105	-0.02761 to 0.01989	0.3432	0.734	ns					0.00981	0.02885	-0.01991 to 0.02885	0.3795	0.7101	ns	0.00448	0.02635	-0.0248	0.0191	ns								
	Season(3)   Breed(1)	-1.876	0.732	-7.473 to 3.720	0.6867	0.4933	ns					-5.847	4.673	-15.046 to 3.352	0.2465	0.8071	ns					-1.683	2.671	-7.165 to 3.779	0.6338	0.514	ns	-6.406	2.017	-10.53 to -2.279	1.325	0.1889	ns							
	Season(1)   Breed(1)	0.2276	0.549	-10.11 to 10.57	0.04508	0.9644	ns					4.712	4.789	-5.098 to 14.52	0.9839	0.3336	ns					6.449	4.937	-3.664 to 16.56	1.306	0.0221	**	5.972	0.153	-4.583 to 16.53	1.159	0.2562	ns							
	Season(2)   Breed(1)	-2.483	3.013	-8.654 to 3.688	0.8242	0.4168	ns					0.2897	2.483	-4.564 to 5.144	0.1014	0.92	ns					0.8566	0.3956	-0.923 to 2.544	0.2862	0.7843	ns	-13.38	0.749	-20.59 to -6.17	2.307	0.0287	**							
	Season(3)   EPEF	-0.00867	0.0158	-0.04223 to 0.02249	0.6246	0.5373	ns					-0.00507	0.01488	-0.02676 to 0.02028	0.3383	0.7378	ns					-0.000661	0.01545	-0.04120 to 0.02028	0.619	0.5409	ns	-0.02488	0.02162	-0.05790 to 0.008146	1.543	0.134	ns							
	Season(1)   EPEF	0.00786	0.03027	-0.06426 to 0.06970	0.2539	0.8014	ns					0.03234	0.02871	-0.02648 to 0.09415	1.126	0.2686	ns					0.04595	0.02596	-0.07178 to 0.1042	1.471	0.1524	ns	0.03396	0.03089	-0.02368 to 0.1029	1.282	0.2104	ns							
	Season(2)   EPEF	0.0144	0.01719	-0.04960 to 0.02081	0.8377	0.4093	ns					0.0005138	0.0163	-0.03288 to 0.03390	0.03152	0.9751	ns					0.004155	0.01778	-0.04477 to 0.02027	0.8037	0.4215	ns	0.07778	0.02008	-0.00008	0.9284	0.028	ns							
Breed(1)   EPEF	0.02173	0.01387	-0.009526 to 0.05292	1.572	0.1272	ns					0.01781	0.01515	-0.009134 to 0.04475	1.354	0.1868	ns					0.009788	0.02596	-0.01798 to 0.03756	1.421	0.1673	ns	-0.030391	0.03415	-0.05268 to 0.02529	0.2609	0.7981	ns								
Goodness of Fit	R squared																																							
Degrees of Freedom	28																																							
Multicollinearity																																								
Variable	VIF	R2 with other variables																																						
[0]	Intercept	999.8	0.999															999.8	0.999																					
[1]	Season(3)	959.8	0.999															959.8	0.999																					
[2]	Season(1)	2147	0.9995															2147	0.9995																					
[3]	Season(2)	1081	0.9991															1081	0.9991																					
[4]	Breed(1)	512.3	0.9981															512.9	0.9981																					
[5]	EPEF	189.4	0.9947															189.4	0.9947																					
[6]	Season(3)   Breed(1)	222	0.9955															222	0.9955																					
[7]	Season(2)   Breed(1)	425	0.9976															425	0.9976																					
[8]	Season(1)   Breed(1)	243.4	0.9959															243.4	0.9959																					
[9]	Season(3)   EPEF	482.6	0.9979															482.6	0.9979																					
[10]	Season(1)   EPEF	1065	0.9991															1065	0.9991																					
[11]	Season(2)   EPEF	561.8	0.9982															561.8	0.9982																					
[12]	Breed(1)   EPEF	167.4	0.994															167.4	0.994																					
Normality of Residuals	Statistics	P value	Passed normality test (alpha=0.05) ?															Statistics	P value	Passed normality test (alpha=0.05) ?																				
Anderson-Darling (A2)	0.1826	0.9056	Yes															0.3451	0.4683	Yes																				
D'Agostino-Pearson omnibus (K2)	0.6835	0.7105	Yes															2.057	0.3575	Yes																				
Shapiro-Wilk (W)	0.9803	0.0076	Yes															0.3843	0.5269	Yes																				
Kolmogorov-Smirnov (distance)	0.07685	>0.1000	Yes															0.102	>0.1000	Yes																				
Rows in table	45																			45																				
Rows skipped (missing data)	4																			4																				
Rows analyzed (if cases)	41																			41																				
Number of parameter estimates	13																			13																				
Residuals/parameters	3.2																			3.2																				

Dependent variable	IgY anti-ACT										IgY anti-DNA										IgY anti-TNP										IgY anti-LPS																				
Analysis of Variance	SS	DF	MS	F (DFn, DFd)	P value						SS	DF	MS	F (DFn, DFd)	P value						SS	DF	MS	F (DFn, DFd)	P value																										
Regression	3.017	12	0.2514	F (12, 28) = 1.022	P=0.4560						6.225	12	0.5188	F (12, 28) = 6.785	P=0.0001						4.731	12	0.3942	F (12, 28) = 0.9247	P=0.5368																										
Residual	5.885	28	0.2102											4.367	28	0.156											4.614	12	0.3845	F (12, 28) = 1.860	P=0.0699																				
Total	8.902	40	0.2225											6.088	40	0.152											9.346	40	0.2336																						
Parameter estimates	Variable	Estimate	Standard error	95% CI (asymptotic)	t	P value	P value summary					Estimate	Standard error	95% CI (asymptotic)	t	P value	P value summary					Estimate	Standard error	95% CI (asymptotic)	t	P value	P value summary																								
[0]	Intercept	3.228	3.993	-16.41 to 10.498	2.06	0.0488	*						-3.239	2.227	-7.800 to 1.323	1.454	0.157	ns						-7.999	3.549	-15.27 to -0.7291	2.254	0.0302	*																						
	Season(3)	7.238	0.273	-3.463 to 18.14	1.392	0.175	ns						3.487	2.34	-2.536 to 9.511	1.186	0.2456	ns						5.549	4.2	-3.054 to 14.15	1.321	0.1971	ns																						
	Season(1)	19.4	10.15	-1.400 to 40.19	1.911	0.0684	ns						-4.158	5.652	-15.76 to 7.439	0.7345	0.4688	ns						2.487	5.652	-8.311 to 13.28	0.397	0.7011	ns																						
	Season(2)	7.176	5.747	-4.597 to 18.95	1.245	0.2222	ns						0.0806	3.205	-5.957 to 7.174	0.1899	0.8506	ns						1.796	4.578	-7.581 to 11.16	0.3902	0.6993	ns																						
	Breed(1)	6.225	3.688	-1.350 to 13.80	1.683	0.1004	ns						2.681	2.062	-1.564 to 8.885	1.29	0.2075	ns						8.553	2.946	-0.014 to 12.55	2.225	0.0343	*																						
	EPEF	0.03102	0.01297	0.004952 to 0.05609	2.43	0.0218	*						0.01534	0.007234	0.0005192 to 0.03015	2.12	0.043	*						0.00546	0.004783	0.000336 to 0.00959	2.378	0.0245	*																						
	Season(3)   Breed(1)	-0.076	2.912	-10.04 to 9.824	1.4	0.1725	ns						-0.302	2.319	-4.964 to 4.688	1.009	0.3217	ns						1.782	2.718	-3.208 to 0.2017	1.208	0.2017	ns																						
	Season(1)   Breed(1)	-10.64	5.381	-21.66 to 0.3865	1.977	0.058	*						2.121	3.001	-4.026 to 8.267	0.7068	0.4826	ns						0.9565	4.286	-7.822 to 9.78	0.2232	0.825	ns																						
	Season(2)   Breed(1)	-3.76	3.211	-10.34 to 2.817	1.174	0.2515	ns						-3.76	2.587	-10.34 to 2.817	1.097	0.282	ns						-3.76	2.587	-10.34 to 2.817	1.097	0.282	ns																						
	Season(3)   EPEF	-0.02058	0.01683	-0.05955 to 0.002422	1.489	0.1477	ns						-0.01226	0.003988	-0.03149 to 0.008974	1.306	0.2023	ns						-0.01791	0.01341	-0.04538 to 0.020555	1.336	0.1924	ns																						
[1]	Season(2)   EPEF	-0.06192	0.02326	-0.1286 to 0.004164	1.919	0.0693	ns						0.01486	0.00579	-0.02199 to 0.05171	0.8862	0.4167	ns						0.008944	0.02569	-0.04369 to 0.06158	0.3481	0.7304	ns																						
	Season(3)   EPEF	-0.02621	0.01681	-0.06121 to 0.01361	1.543	0.1262	ns						-0.01681	0.01027	-0.02921 to 0.01133	0.1656	0.8776	ns						-0.01469	0.01681	-0.03663 to 0.02133	0.3963	0.6963	ns																						
	Breed(1)   EPEF	-0.00643	0.00478	-0.03870 to 0.02884	0.4352	0.6668	ns						-0.005908	0.001924	-0.02279 to 0.010797	0.717	0.4763	ns						-0.01659	0.01177	-0.04070 to 0.007317	1.41	0.1606	ns																						
	Goodness of Fit																																																		
	Degrees of Freedom	28										28										28										28																			
	R-squared	0.3047										0.7441										0.2838										0.469																			
	Multicollinearity	Variable	VIF	R2 with other variables									Variable	VIF	R2 with other variables									Variable	VIF	R2 with other variables																									
	[2]	Intercept	60										60										60																												
		Season(3)	959.8	0.999										959.8	0.999										959.8	0.999																									
		Season(1)	2147	0.9995										2147	0.9995										2147	0.9995																									
Season(2)		1081	0.9991										1081	0.9991										1081	0.9991																										
Breed(1)		512.9	0.9981										512.9	0.9981										512.9	0.9981																										
EPEF		189.4	0.9947										189.4	0.9947										189.4	0.9947																										
Season(3)   Breed(1)		222	0.9955										222	0.9955										222	0.9955																										
Season(1)   Breed(1)		425	0.9976										425	0.9976										425	0.9976																										
Season(2)   Breed(1)		243.4	0.9959										243.4	0.9959										243.4	0.9959																										
Season(3)   EPEF		482.6	0.9979										482.6	0.9979										482.6	0.9979																										
[3]	Season(2)   EPEF	1065	0.9991										1065	0.9991										1065	0.9991																										
	Breed(1)   EPEF	561.8	0.9982										561.8	0.9982										561.8	0.9982																										
	Goodness of Fit																																																		
	Degrees of Freedom	28										28										28										28																			
	R-squared	0.7441										0.7441										0.7441										0.7441																			
	Normality of Residuals	Statistics	P value	Passed normality test (alpha=0.05)?									P value summary	Statistics	P value	Passed normality test (alpha=0.05)?									P value summary	Statistics	P value	Passed normality test (alpha=0.05)?									P value summary														
	Anderson-Darling (A2)	0.2692	0.6237	Yes										ns	0.6237	Yes										ns	0.6256	0.0663	Yes										ns	0.472	0.232	Yes									
	D'Agostino-P (normality K2)	0.2859	0.6002	Yes										ns	0.6002	Yes										ns	0.6002	0.0663	Yes										ns	0.472	0.232	Yes									
	Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes									
	Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes									
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.232	Yes										
Shapiro-Wilk (W)	0.9792	0.6077	Yes										ns	0.6077	Yes										ns	0.6077	0.0663	Yes										ns	0.472	0.2											