u.s. nutra
2751 Nutra Lane Eustis, FL 32726 main 352 357.2004 toll free 877.876 8872 fax: 352.483.2095 www.usnutra.com

Analytical Comparison of *Haematococcus* Algae Materials

Fatty Acid		Algatechnologies n=2, r=3		Mera Pharma n=2,r=2		Astacarotene n=1, r=2		Bioprocess n=4, r=2		All Samples n=9	
		% of total	σ_n	% of total	σ_n	% of total	σ_n	% of total	σ_n	% of total	σ_n
14:0	Myristic	0.38	0.008	0.36	0.008	0.29	0.012	0.30	0.007	0.34	0.010
15:0	Pentadecanoic	0.44	0.018	0.45	0.002	0.28	0.010	0.32	0.017	0.38	0.017
15:1		-	-	0.43	0.047	-	-	0.32	0.033	0.14	0.042
16:0	Palmitic	11.82	0.064	24.13	0.204	16.59	0.292	15.77	0.343	16.35	0.994
16:1 n-7	*cis*-9-Palmitoleic	0.28	0.008	0.45	0.008	0.39	0.000	0.40	0.018	0.37	0.016
17:0	Heptadecanoic	2.14	0.021	1.18	0.032	2.40	0.005	2.67	0.081	2.19	0.131
17:1	*cis*-10-Heptadecenoic	5.42	0.032	4.40	0.157	2.48	0.059	2.71	0.064	3.84	0.284
18:0	Stearic	0.58	0.010	1.29	0.036	2.99	0.013	2.78	0.125	1.84	0.237
18:1 n-9 *c/t*	*cis*-9-Oleic and/or *trans*-9-Elaidic	21.11	0.056	23.93	0.450	29.52	0.006	27.49	0.349	25.08	0.719
18:2 n-6 *c/t*	*cis*-9,12-Linoleic and/or *trans*-9,12-Linolelaidic	30.47	0.053	19.57	0.034	26.88	0.054	27.98	0.394	26.96	0.905
20:0	Arachidic	2.03	0.015	1.42	0.023	1.29	0.002	1.33	0.055	1.55	0.075
18:3 n-6	γ-Linolenic	14.42	0.020	14.04	0.320	9.46	0.088	10.36	0.187	12.23	0.481
20:1	*cis*-11-Eicosenoic	0.22	0.006	0.36	0.010	0.60	0.016	0.59	0.010	0.43	0.038
18:3 n-3	Linolenic	0.13	0.008	0.16	0.011	0.20	0.033	0.18	0.017	0.16	0.009
21:0	Heneicosanoic	1.08	0.019	0.79	0.048	1.26	0.022	1.37	0.064	1.15	0.057
20:2	*cis*-11,14-Eicosadienoic	0.52	0.010	-	-	-	-	-	-	0.16	0.055
20:3 n-6	*cis*-8,11,14-Eicosatrienoic	1.34	0.017	0.76	0.031	0.82	0.011	0.86	0.041	0.98	0.057
22:1 n-9	*cis*-13-Erucic	0.23	0.009	-	-	-	-	-	-	0.07	0.024
20:3 n-3	*cis*-11,14,17-Eicosatrienoic	0.63	0.007	0.61	0.016	0.22	0.023	0.25	0.018	0.43	0.044
20:4 n-6	*cis*-5,8,11,14-Arachidonic	6.76	0.100	5.68	0.100	4.33	0.222	4.48	0.150	5.39	0.242
23:0	Tricosanoic	-	-	0.22	0.011	0.22	0.027	0.24	0.011	0.16	0.025

u.s. nutra
2751 Nutra Lane Eustis, FL 32726 main: 352 357.2004 toll free: 877.876.8872 fax: 352.483 2095 www.usnutra.com

Carotenoid	Algatechnologies			Mera Pharma			AstaCarotene			BioProcess			All Samples		
	% w/w	σ_n	% of total	% w/w	σ_n	% of total	% w/w	σ_n	% of total	% w/w	σ_n	% of total	% w/w	σ_n	% of total
E-Astaxanthin	2.60	0.090	78	1.96	0.045	60	1.54	< 0.001	65	1.59	0.036	60	1.96	0.106	67
9Z-Astaxanthin	0.07	0.012	2	0.70	0.018	21	0.33	0.001	14	0.45	0.032	17	0.37	0.054	12
13Z-Astaxanthin	0.49	0.085	15	0.51	0.014	16	0.35	< 0.001	15	0.42	0.013	16	0.45	0.027	15
Total Astaxanthins	3.16		94	3.17		97	2.22		94	2.47		93	2.79		94
β-Carotene	0.136	0.004	4	0.089	0.012	3	0.140	0.001	6	0.151	0.004	6	0.133	0.006	5
Lutein	0.043	0.001	1	0.004	< 0.001	< 1	0.002	< 0.001	< 1	0.004	0.001	< 1	0.016	0.004	1
Canthaxanthin	0.009	0.003	< 1	0.001	< 0.001	< 1	0.001	< 0.001	< 1	0.001	< 0.001	< 1	0.003	< 0.001	< 1
Total Other Carotenoids	0.188			0.094			0.143			0.156			0.152		
Total Carotenoids	3.35			3.26			2.36			2.63			2.94		

Legend:

Algatechnologies: Algae Lots: 304, 404, 504, 604 and 704, USN lab ID U0264-1; 704, 804, 904, USN lab ID U0264-2
2 samples, 3 replicates = total 6 data sets

Mera Pharma: Algae Lots: DB1-040309, USN lab ID U0280-1; DB2-040308, USN lab ID U0280-2
2 samples, 2 replicates = total 4 data sets

Astacarotene. Astaxin brand (Astacarotene) gelatin capsules, label claim 120 mg *Haematococcus pluvialis*
Batch no. 210537, Expiration date 10.2004 lab ID: U0271-1
1 sample, 2 replicates = total 2 data sets

Bioprocess: Astaxin brand (Bioprocess AB) gelatin capsules, label claim 120 mg *Haematococcus pluvialis*
Batch no. 307509, Expiration date 5.2005 lab ID: U0271-2
Batch no. 311517, Expiration date 9.2005 lab ID: U0271-3
Batch no. 311516, Expiration date 10.2005 lab ID: U0271-4
Batch no. 309510, Expiration date 5.2005 lab ID: U0271-5
4 samples, 2 replicates = total 8 data sets