

## Nutraceutical Testing Service List

Code	Antioxidant
A 101	ORAC <sub>hydrophilic</sub> - quenching peroxy radicals (for hydrophilic samples)
A 102	ORAC <sub>lipophilic</sub> - quenching peroxy radicals (for lipophilic samples)
A 103	ORAC <sub>hydrophilic</sub> & ORAC <sub>lipophilic</sub>
A 104	HORAC - quenching hydroxyl radicals
A 105-1	SOAC - quenching singlet oxygen <sup>new</sup>
A 105	NORAC - quenching peroxy nitrite
A 106	SORAC - quenching superoxide anion
A 107	Total ORAC <sub>FN</sub> (all of the above)
A 108	ORAC <sub>Oil</sub> <sup>new</sup> (for oil samples)
A 110	Total Bioflavonoids
A 111	Total Phenolics
A 112	Total Anthocyanins
A 113	ORAC <sub>hydrophilic</sub> , Total Phenolics, & Total Anthocyanins
A 114	ORAC <sub>hydrophilic</sub> & Total Phenolics
A 115	FRAP - Ferric Reducing Antioxidant Power
A 116	TEAC - Trolox Equivalent Antioxidant Capacity
A 117	DPPH - DPPH Radical Scavenging Capacity
A 118	Total Proanthocyanidins (PACs) <sup>new</sup>
<b>Anti-inflammation</b>	
A 201	Cox-1 Enzyme Inhibitor
A 202	Cox-2 Enzyme Inhibitor
A 203	5-Lipoxygenase (LOX) Inhibitor
A 204	NF- $\kappa$ B Inhibitor
A 205	iNOS Inhibitor
A 206	PLA <sub>2</sub> Inhibitor
<b>Anti-glycemic</b>	
A 301	Alpha-Amylase Inhibition
A 302	Alpha-Glucoside Inhibition
A 303	Beta-Glucoside Inhibition
<b>Anti-obesity</b>	
A 401	Pancreatic Lipase Inhibition
A 402	Protein tyrosine phosphatase-1B
A 403	Fatty Acid Synthase (FAS) inhibition
<b>Cognition Enhancement</b>	
A 501	Butyrylcholinesterase Inhibition
A 502	Acetylcholinesterase Inhibition

## Routine HPLC Analysis for Raw Ingredients

<b>Code</b>	<b>Vitamins</b>
V 301	Vitamin A
V 302	Vitamin B (B <sub>1</sub> , B <sub>2</sub> , B <sub>3</sub> , B <sub>6</sub> , and B <sub>12</sub> ) Price is each please specify
V 303	Folic Acid
V 304	Vitamin C
V 305	Vitamin D <sub>3</sub>
V 306	Vitamin K <sub>1</sub>
V 307	Vitamin H (Biotin)
V 308	Tocopherols (alpha, beta, gamma, delta)
V 309	Tocotrienols (alpha, beta, gamma, delta)
V 310	Tocopherols & Tocotrienols (V 308 & V 309)
	<b>Carotenoids</b>
C 401	Alpha & Beta Carotene
C 402	Lutein
C 403	Lycopene
C 404	Zeaxanthin
C 405	Astaxanthin (free)
C 407	Astaxanthin (total)
	<b>Phenolic Acids</b>
P 601	Cinnamic Acid
P 603	Chlorogenic Acid
P 604	Ellagic Acid (free)
P 605	Ellagic Acid (total)
P 606	Ferulic Acid
P 607	Gallic Acid
P 608	Caffeic Acid
P 609	<i>p</i> -Coumaric Acid
	<b>Catechins</b>
C 701	Catechin
C 702	(-) Epicatechin
C 703	Epigallocatechin
C 704	Epigallocatechin Gallate
C 705	Catechin Gallate
C 706	Gallocatechin
C 707	Gallocatechin Gallate
C 708	Epicatechin Gallate
C 709	All above catechins
C 710	All above catechins plus caffeine (for Green Tea products)

## Routine HPLC Analysis for Raw Ingredients

(Continued)

<b>Code</b>	<b>Organic Acids</b>
O 501	Group 1: Benzoic acid, sorbic acid
O 502	Group 2: Citric acid, malic acid, lactic acid, actic acid
O 503	Group 3: Tartaric acid, formic acid, succinic acid, fumaric acid
O 504	Group 4: Propionic acid
O 505	Group 5: Oxalic acid
O 506	Group 6: Quinic acid, malic acid, citric acid
O 507	Group 7: Pyruvic acid
	<b>Phytoestrogen</b>
P 801	Daidzein
P 802	Genistin
P 803	Glycitein
	<b>Flavonoids</b>
F 901	Individual Anthocyanins by HPLC
F 902	Individual Proanthocyanins by HPLC-A/B type linkage
F 904	Quercitrin
F 905	Quercetin
F 906	Rutin
F 907	Myricetin
F 908	Kaempferol
	<b>Miscellaneous</b>
M 1001	Co-Enzyme Q <sub>10</sub>
M 1002	Total Polysaccharides
M 1004	Peak X and Peak E in 5-HTP
M 1005	Gamma-Oryzanol
M 1006	Total Resveratrol
M 1007	Betaine (Goji berries)
M 1008	Hyperforin and Hypericin
M 1009	Xanthones
M 1010	Punicalagins A & B
M 1011	Caffeine

### LC-MS/MS Analysis for Finished Products/Complex Matrix\*\*

Code	Analyte	Matrix
<b>Nutrients / Markers</b>		
NM 001	Agnuside	Plant/Extract/Finished Product
NM 002	Anthocyanidins (apigeninidin and luteolinidin)	Plant/Extract/Finished Product
NM 003	Arbutin	Plant/Extract/Finished Product
NM 004	Asiaticoside	Plant/Extract/Finished Product
NM 005	Astragalosides (astragaloside I, II, and IV)	Plant/Extract/Finished Product
NM 006	Baicalin and baicalein	Plant/Extract/Finished Product
NM 007	Carotenoids (astaxanthin, alpha, beta-carotene, lycopene, lutein, and zeaxanthin)	Plant/Extract/Finished Product
NM 008	Catechins (catechin, epicatechin, gallic acid, epigallocatechin, gallic acid gallate, epigallocatechin gallate, catechin gallate, and epicatechin gallate)	Plasma/Urine/Plant/Extract/Finished Product
NM 009	Chrysin	Plant/Extract/Finished Product
NM 010	Curcumin	Plant/Extract/Finished Product
NM 011	Cynarin	Plant/Extract/Finished Product
NM 012	Diosgenin	Plant/Extract/Finished Product
NM 013	Echinacoside	Plant/Extract/Finished Product
NM 014	Eleutherosides B and E	Plant/Extract/Finished Product
NM 015	Emodin, pycnogenin, and resveratrol.	Plant/Extract/Finished Product
NM 016	Ephedrine, pseudoephedrine, norephedrine, norpseudoephedrine, methylephedrine, and methylpseudoephedrine.	Plant/Extract/Finished Product
NM 017	Flavonoids (apigenin, chrysoeriol, hesperetin, hesperidin, hyperoside, isoorientin, isoquercitrin, isorhamnetin, isovitexin, luteolin, myricetin, naringenin, naringin, orientin, phloretin, phloridzin, quercetin, rutin, vitexin, and tamarixetin)	Plant/Extract/Finished Product/ Plasma/Urine
NM 018	Folic acid	Plant/Extract/Finished Product
NM 019	Forskolin	Plasma/Plant/Extract/Finished Product
NM 020	Glucosamine	Finished Product
NM 021	Glycyrrhizic acid	Plant/Extract/Finished Product
NM 022	Guggulsterone	Plant/Extract/Finished Product
NM 023	Harpagoside and harpagide	Plant/Extract/Finished Product
NM 024	Huperzine A	Plant/Extract/Finished Product
NM 025	Hydrastine and berberine	Plant/Extract/Finished Product
NM 026	Hypericin and hyperforin	Plant/Extract/Finished Product
NM 027	Icariin	Plant/Extract/Finished Product
NM 028	Indole-3-carbinol	Supplements
NM 029	Ipriflavone	Supplements

### LC-MS/MS Analysis for Finished Products/Complex Matrix\*\* (Continued)

Code	Analyte	Matrix
<b>Nutrients / Markers</b>		
NM 030	Kavain, dihydrokavain, and dihydromethysticin	Plant/Extract/Finished Product
NM 031	Kojic acid	Food and cosmetic products
NM 032	Ligustilide	Plant/Extract/Finished Product
NM 033	Lovastatin	Red Yeast/Extract/Products
NM 034	Alpha-Mangostin	Plant/Extract/Finished Product
NM 035	Oleuropein	Plant/Extract/Finished Product
NM 036	Pantethine and pantothenic acid (vitamin B <sub>5</sub> )	Extract/Finished Product
NM 037	Parthenolide	Plant/Extract/Finished Product
NM 038	Phytosterols (stigmasterol, beta-sitosterol, and campesterol)	Plant/Extract/Finished Product
NM 039	Rosmarinic acid and carnosic acid	Plant/Extract/Finished Product
NM 040	Salicin	Plant/Extract/Finished Product
NM 041	Salidroside and rosavin	Plant/Extract/Finished Product
NM 042	Schizandrins A and B and schisantherin A	Plant/Extract/Finished Product
NM 043	Senosides A and B	Plant/Extract/Finished Product
NM 044	Simmondsin	Plant/Extract/Finished Product
NM 045	Stevioside	Plant/Extract/Finished Product
NM 046	Synephrine	Fruit/Extract/Finished Product
NM 047	L-Theanine	Green tea/Extract/Finished Product
NM 048	Theobromine	Food Products
NM 049	Alpha-Tocopherol (vitamin E)	Extract/Finished Product
NM 050	Valerenic acid	Plant/Extract/Finished Product
NM 051	Vitamin A	Finished Product
NM 052	Vitamin B (B <sub>1</sub> , B <sub>2</sub> , B <sub>3</sub> , B <sub>6</sub> , B <sub>12</sub> )	Finished Product
NM 053	Vitamin D <sub>3</sub>	Finished Product
NM 054	Vitamin E (alpha-tocopherol, acetate, succinate)	Finished Product
NM 055	Vinpocetine and vincamine	Extract/Finished Product
NM 056	Withaferin A	Plant/Extract/Finished Product
NM 057	Yohimbine	Plant/Extract/Finished Product
<b>Residues</b>		
R 001	Chloramphenicol and natamycin	Plasma/Food Products/Finished Product
R 002	Tetracycline, epitetacycline, oxytetracycline, and chlorotetracycline	Plasma/Food Products/Finished Product

### LC-MS/MS Analysis for Finished Products/Complex Matrix\*\* (*Continued*)

Code	Analyte	Matrix
<b>Toxins</b>		
T 001	Acrylamide	Food Products
T 002	Aristolochic acid	Plant/Extract/Finished Product/Plasma
T 003	Ginkgolic acids (ginkgolic acids C13:0, C15:1, and C17:1)	Plant/Extract/Finished Product
T 004	Mycotoxins (aflatoxin B <sub>1</sub> , aflatoxin M <sub>1</sub> , ochratoxin A, and citrinin)	Food/Dietary Supplements
T 005	Pyrrolizidine alkaloids (monocrotaline and retrosine, etc.)	Plasma/Plant/Finished Product
<b>Oxidative Stress Biomarkers</b>		
OSB 001	8-Hydroxy-2'-deoxyguanosine	Plasma/Urine
OSB 002	Tyrosine and 3-nitrotyrosine	Plasma/Urine
OSB 003	8- <i>i</i> -PGF2- $\alpha$	Plasma/Urine
OSB 004	Lipid hydroperoxides	Plasma/Urine
OSB 005	4-Hydroxynonenal (4-HNE)	Plasma
OSB 006	Malondialdehyde (MDA)	Plasma
OSB 007	ORAC	Plasma
OSB 008	Super oxide Dismutase (SOD)	Plasma
OSB 009	Catalase	Plasma
OSB 010	Glutathione Peroxidase	Plasma
OSB 011	Glutathione	Plasma

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1. The prices are sample number and matrix dependent and we will offer complete prices. Please ask for price.
2. We will continue to develop more assays using LC-MS/MS to meet our customers' specific needs.

## SAMPLE SUBMISSION

A completed Brunswick Laboratories **SAMPLE SUBMISSION FORM** is needed so samples can be accurately logged into the system and the process begun. The analysis will be delayed until there is a completed form. If you have difficulty downloading the form or completing the form, please call us and we will be happy to assist you. Brunswick is equipped to receive samples via all delivery services but samples that may "spoil" or change characteristics, **should not** be shipped for "overnight delivery" to arrive on Saturday.

- Name, address, telephone, fax, and e-mail information of the contact person to receive the results, and the same information for the person/department to receive the invoice *if different* from contact person.
- New customers are required to pre-pay for analyses to be done. Form of payment may be check (must clear before work is begun), wire transfer, VISA or MasterCard.
- To establish a new account, please contact Rose Steele --- [rsteale@brunswicklabs.com](mailto:rsteale@brunswicklabs.com).
- Please include a Copy of the *Purchase Order* if utilized by your company.
- Description of each sample and/or a discreet identifier number for each sample.
- List of specific analyses ordered for each sample, with any special instructions for sample preparation --- brewing, etc. If results are to be expressed in units other than our standard of "units per gram" for solids and "units per liter or ml" for liquids, it must be known at the time of analysis.
- Sample size required: powder --- 5 grams; "fresh" product --- 25 grams; liquid --- at least 50 ml.
- Service fees and up-charges will apply to deviations from standard sample preparation --- such as de-fatting, special brewing, etc. and to requests for re-formatting reports, conversion of units of measure, chromatograms, and other data related requests.

### RESULTS

- The *Certificate of Analysis* will be faxed or e-mailed when the analyses are completed.
- The original *Certificate of Analysis* will be mailed with the invoice.

### SAMPLE RETENTION

- Samples are retained for 30 days after the results are sent to the client. If the sample is *perishable*, it will be discarded immediately after the analysis is completed, unless instructed otherwise by the client. If the client formally requests samples to be retained for a longer period in refrigerator or freezer storage, a storage fee will be charged.

### CONFIDENTIALITY

- All work is held in confidence and will not be released to other parties without the written request of the client.

## CLIENT ASSISTANCE

- We want to be of assistance to our clients therefore we recommend sending your questions by e-mail to [info@brunswicklabs.com](mailto:info@brunswicklabs.com). We promise to answer e-mail in a timely fashion. If appropriate, the questions will be directed to a member of our scientific staff.
- Brunswick Laboratories provides analytical results only.

**If your needs go beyond the typical questions, a consulting charge will apply.**

## PRICING & TURNAROUND TIME

- Normal turn around time is 10 to 15 working days. Samples which the client needs on a priority basis can be expedited.
- **Extra charges for “rush” work**, a **RUSH** fee of 1.5x to 2.0x may be assessed. Brunswick Labs must be notified and approve all rush samples prior to sending samples.

## LIABILITY

- Services performed by Brunswick Labs are done without prejudice and to the best of our ability. Liability for any claim relating to services performed by Brunswick Labs will be limited to the amount invoiced for the analysis in question. Further, the client agrees to indemnify and hold harmless Brunswick Labs for any/all claims relating to the services provided.

## SERVICE FEES AND UP-CHARGES

Reformat reports- If not designated with sample submittal	\$20 per report
Conversion of units of measure- If not designated with sample submittal	\$20 per report
Chromatograms- If not requested with sample submittal	\$20 per chromatogram
De-fatting	\$25 per sample
Special grinding	\$5 per sample
Archive retrieval	\$50 per request