

PATIENT INFO:

PATIENT: Chris Grayson

COLLECTED: 6/20/2023

DOB: 9/17/1973

ACCESSION: 20230621-0244

RECEIVED: 6/21/2023

COMPLETED: 7/2/2023

PROVIDER INFO:

Designs for Health Spotlight

Chris Grayson,

Introduction - Your Metabolomic Signature

Designs for Health is pleased to offer you Designs for Health Metabolomics Spotlight™ Analysis revealing your unique Metabolic Signature.

Using a systems-biology approach, the test assesses biomarkers that go beyond the traditional lists of analytes. Metabolites are impacted by many factors and can change in response to diet, nutrient status, toxin exposures, exercise, physiologic demands, genetics, gut microbiome alterations, or disordered health state. Metabolic analysis can help clinicians evaluate the function of key pathways to better target support.

This test enables you to see a larger personal health picture by deciphering and connecting perturbations of key metabolic pathways and analytes, allowing for truly personalized support. Metabolomics, also called *comprehensive metabolic profiling*, evaluates patterns related to core biological systems, offering insight into biochemical dysfunctions that may be of concern. Organic acids and other small molecules are intermediate compounds that can define the efficient flow of metabolic pathways and can help in revealing the functional status of key areas of biochemistry and health.

Your SPOTLIGHT Test Scores

Scale of 0-10, Higher Score = More Need for Support, Details on Following Pages.



Energy Metabolism



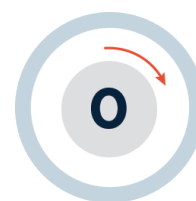
B-Vitamins



CNS-Neurotransmitters/
Hormones



Toxic Impacts



Digestion & Microbial
Metabolites

Lifestyle and Supplement Recommendations:

The lifestyle and supplement recommendations included in this report are generalized and made for adults. Not all recommendations are appropriate or applicable for every individual. A knowledgeable and qualified healthcare practitioner should review all recommendations and adjust them as needed, based on the individual's age, personal health history, pregnancy or breastfeeding status, potential drug or nutrient interactions, contraindications, current supplement use, diet, lifestyle, and other relevant factors.

SPOTLIGHT 1

KEY: < DL = Results below detection limit.

Energy Metabolism						
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Glycolysis						
Glucose <i>Glucokinase</i>	6.5					< 15.2 mg/dL
Pyruvic Acid <i>Pyruvate dehydrogenase + B1, B2, B3, B5 LA</i>	5.9					< 67.4 nmol/mg Creatinine
Lactic Acid <i>Lactate dehydrogenase + B3</i>	36.7					12.2 - 458.2 nmol/mg Creatinine
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Krebs Cycle						
Citric Acid <i>Citrate synthase</i>	618.7					203.0 - 3208.6 nmol/mg Creatinine
cis-Aconitic Acid <i>Aconitase</i>	251.5					126.3 - 668.9 nmol/mg Creatinine
Isocitric Acid <i>Isocitrate dehydrogenase + B3</i>	253.9					137.1 - 794.9 nmol/mg Creatinine
α-Ketoglutaric Acid <i>alpha-Ketoglutarate dehydrogenase + B1, B2, B3, B5, LA</i>	<dl					< 169.6 nmol/mg Creatinine
Succinic Acid <i>Succinic dehydrogenase + B2</i>	58.2					12.3 - 260.4 nmol/mg Creatinine
Fumaric Acid <i>Fumarase</i>	3.3					< 16.1 nmol/mg Creatinine
Malic Acid <i>Malate dehydrogenase + B3</i>	6.0					1.0 - 27.1 nmol/mg Creatinine

SPOTLIGHT 1

Energy Metabolism

Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Fatty Acid Oxidation						
Adipic Acid <i>Saturated dicarboxylic acid</i>	5.6					4.3 - 55.6 nmol/mg Creatinine
Suberic Acid <i>Fatty acid oxidation + Carnitine</i>	0.8					0.7 - 9.3 nmol/mg Creatinine
Ethylmalonic Acid <i>Dicarboxylic acid</i>	20.8					9.9 - 65.6 nmol/mg Creatinine

Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Ketones						
β -Hydroxybutyric Acid <i>beta-Hydroxybutyrate dehydrogenase + B3</i>	42.5					3.2 - 116.4 nmol/mg Creatinine

SPOTLIGHT Score



SPOTLIGHT Score Key:

Scale 0-10. Higher score indicates more need for support.

General Support Recommendations

Lifestyle and Supplement Tools for Energy Metabolism

Depending on your unique test outcomes, lipoic acid, CoQ10, carnitine and B-complex might be beneficial. If the ketone marker is elevated, insulin resistance and/or participation in a ketogenic diet or intermittent fasting may be considered. Your health care provider may use this information to help determine proper selection and recommended intake related to supplement utilization, diet, and lifestyle changes.

Designs for Health Product Considerations

Supplement recommendations may include **Lipoic Acid Supreme**, **C0QNoI™-100**, and **Carnitine Synergy™**.

SPOTLIGHT 2

KEY: < DL = Results below detection limit.

B-Vitamins			
Analytes Tested	Result		95% Reference Range
B-Complex (B1, B2, B3, B5, LA)			
Pyruvic Acid <i>Pyruvate dehydrogenase + B1, B2, B3, B5 LA</i>	5.9		< 67.4 nmol/mg Creatinine
α-Ketoglutaric Acid <i>alpha-Ketoglutarate dehydrogenase + B1, B2, B3, B5, LA</i>	<dl		< 169.6 nmol/mg Creatinine
Branched Chain Alpha-Keto Organic Acids <i>Branched-chain keto acid dehydrogenase + B1, B2, B3, B5, LA</i>	3.9		2.2 - 91.9 nmol/mg Creatinine
Analytes Tested	Result		95% Reference Range
Vitamin B12			
Methylmalonic Acid <i>Methylmalonyl-CoA mutase + B12</i>	14.1		< 24.9 nmol/mg Creatinine
Analytes Tested	Result		95% Reference Range
Folate			
Formiminoglutamic Acid <i>Glutamate formimino-transferase + Folate</i>	1.0		< 2.7 nmol/mg Creatinine
Analytes Tested	Result		95% Reference Range
Vitamin B6			
Xanthurenic Acid <i>Kynurenine transaminase + B6</i>	27.8 H		0.6 - 10.2 nmol/mg Creatinine
Pyridoxic Acid <i>Aldehyde oxidase</i>	10.9		< 98.3 nmol/mg Creatinine
Analytes Tested	Result		95% Reference Range
Biotin			
β-Hydroxyisovaleric Acid <i>Methylcrotonyl-CoA carboxylase + Biotin</i>	42.4		< 102.8 nmol/mg Creatinine

SPOTLIGHT 2

B-Vitamins

SPOTLIGHT Score

General Support Recommendations



SPOTLIGHT Score Key:

Scale 0-10. Higher score indicates more need for support.

Lifestyle and Supplement Tools for B-Vitamins

Depending on your unique test outcomes, vitamins B12, B6, folate, and/or B-complex may be beneficial. Your health care provider may use this information to help determine proper selection and recommended intake related to supplement utilization, diet, and lifestyle changes.

Designs for Health Product Considerations

Supplement recommendations may include **B-Supreme**, **Tricobalamin™**, **Trifolamin™**, Or **L-5-MTHF-500**.

SPOTLIGHT 3

KEY: < DL = Results below detection limit.

CNS-Neurotransmitters/Hormones						
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Tryptophan Metabolism						
Tryptophan <i>Tryptophan-2,3-dioxygenase/Indoleamine-2,3-dioxygenase</i>	30.1					10.1 - 74.3 nmol/mg Creatinine
5-Hydroxyindoleacetic Acid <i>Aldehyde dehydrogenase + B3</i>	6.6					< 23.3 nmol/mg Creatinine
Kynurenine <i>Kynurenine mono-oxygenase (KMO) + B2</i>	5.1					< 11.6 nmol/mg Creatinine
KT Ratio <i>Kynurenine / Tryptophan</i>	0.170					< 0.313
Kynurenic Acid <i>Kynurenine transaminase + B6</i>	15.3					7.8 - 54.0 nmol/mg Creatinine
Quinolinic Acid <i>Quinolinic acid phosphoribosyltransferase</i>	49.4					29.4 - 178.5 nmol/mg Creatinine
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Neurotransmitter						
Tyrosine <i>Tyrosine hydroxylase + BH4</i>	40.7					< 99.0 nmol/mg Creatinine
γ-Aminobutyric Acid <i>gamma-Aminobutyric acid aminotransferase + B6</i>	<dl					< 9.5 nmol/mg Creatinine
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Catecholamine Turnover						
Homovanillic Acid <i>COMT + Magnesium & Monoamine oxidase + B2</i>	11.1					< 42.1 nmol/mg Creatinine
Vannilylmandelic Acid <i>Monoamine oxidase + B2</i>	11.1					5.3 - 36.1 nmol/mg Creatinine
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Steroid Hormone						
Cortisol <i>11-beta-Hydroxysteroid dehydrogenase + B3</i>	67.2					< 82.0 mcg/g Creatinine

The assays were developed and/or the performance characteristics determined by Diagnostic Solutions Laboratory. The results are for research and not for diagnostic purposes.

SPOTLIGHT 3

CNS-Neurotransmitters/Hormones

SPOTLIGHT Score



SPOTLIGHT Score Key:

Scale 0-10. Higher score indicates more need for support.

General Support Recommendations

Lifestyle and Supplement Tools for CNS-Neurotransmitters/Hormones

Depending on your unique test outcomes, 5-HTP, GABA, adaptogenic herbs, magnesium, B-complex, B6, taurine, L-theanine, tyrosine, Macuna (L - Dopa), and/or stress reducing lifestyle techniques might be beneficial. Your health care provider may use this information to help determine proper selection and recommended intake related to supplement utilization, diet, and lifestyle changes.

Designs for Health Product Considerations

Supplement recommendations might include **Glucosupreme™**, **CatecholaCalm™**, **DopaBoost™**, **Adrenatone™**, **5-HTP Supreme™**, **OmegaEvail™**, and **pharma-GABA**.

SPOTLIGHT 4

KEY: < DL = Results below detection limit.

Toxic Impacts						
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Oxidative Damage						
8-Hydroxy-2'-deoxyguanosine <i>DNA oxidation</i>	2.5					< 6.4 nmol/mg Creatinine
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Urea Cycle						
Arginine <i>Arginase & Nitric oxide synthase</i>	6.2					< 26.4 nmol/mg Creatinine
Citrulline <i>Argininosuccinate synthase</i>	<dl					< 12.6 nmol/mg Creatinine
Ornithine <i>Ornithine transcarbamylase</i>	6.1					< 26.8 nmol/mg Creatinine
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Kidney Impacts						
Orotic Acid <i>Uridine monophosphate synthase</i>	9.1					1.2 - 13.1 nmol/mg Creatinine
Microalbumin <i>Blood protein</i>	<dl					< 130.4 mcg/mg Creatinine
Creatinine <i>Creatine breakdown</i>	153.9					29.3 - 296.8 mg/dL
Oxalic Acid <i>Divalent metallic cations</i>	167.6					144.9 - 1749.5 nmol/mg Creatinine

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SPOTLIGHT 4

Toxic Impacts						
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Toxins						
2-, 3-, and 4-Methylhippuric acid <i>Xylenes exposure</i>	<dl					< 0.6 nmol/mg Creatinine
Mandelic Acid <i>Styrene exposure</i>	6.7					< 16.9 nmol/mg Creatinine
Benzoylform <i>Styrene exposure</i>	0.3					< 3.6 nmol/mg Creatinine
Glucaric Acid <i>Glucuronic Acid Pathway</i>	20.6					< 31.5 nmol/mg Creatinine
Analytes Tested	Result	20%	40%	60%	80%	95% Reference Range
Detox						
Homocystine <i>Methionine synthase + B12</i>	<dl					< 2.6 nmol/mg Creatinine
Sulfocysteine <i>Sulfite oxidase (SOX) + Mo</i>	6.2					< 12.1 nmol/mg Creatinine
Cystine <i>Oxidation</i>	16.0					< 48.5 nmol/mg Creatinine
α-Hydroxybutyric Acid <i>Dehydrogenase + B3</i>	34.8					15.4 - 95.6 nmol/mg Creatinine
Pyroglutamic Acid <i>5-Oxoprolinase</i>	71.3 L					75.8 - 543.8 nmol/mg Creatinine

SPOTLIGHT 4

Toxic Impacts

SPOTLIGHT Score



SPOTLIGHT Score Key:

Scale 0-10. Higher score indicates more need for support.

General Support Recommendations

Lifestyle and Supplement Tools for Toxic Impacts

Depending on your unique test outcomes, glutathione, various antioxidants, B-complex, NAC, glycine, glutamine, taurine, ornithine, MSM, and/or methionine may be beneficial. Your health care provider may use this information to help determine proper selection and recommended intake related to supplement utilization, diet, and lifestyle changes.

Designs for Health Product Considerations

Supplement recommendations may include **Detox Antiox™**, **B-Supreme**, **S-Acetyl Glutathione Synergy** and **Amino-D-Tox™**.

SPOTLIGHT 5

KEY: < DL = Results below detection limit.

Digestion & Microbial Metabolites			
Analytes Tested	Result		95% Reference Range
Amino Acid Microbial Metabolites			
Proline <i>Prolyl hydroxylase + Vitamin C</i>	<dl		< 27.9 nmol/mg Creatinine
Hydroxyproline <i>4-Hydroxyproline oxidase</i>	<dl		< 25.2 nmol/mg Creatinine
Glycylproline <i>Dipeptide of Glycine + Proline</i>	2.8		< 18.9 nmol/mg Creatinine
4-Hydroxyphenylacetic Acid <i>Disordered tyrosine metabolism</i>	82.4		43.1 - 528.1 nmol/mg Creatinine
Indoleacetic Acid <i>Disordered tryptophan metabolism</i>	19.7		3.0 - 55.5 nmol/mg Creatinine
3,4-Dihydroxyhydrocinnamic Acid <i>Polyphenol metabolite</i>	<dl		< 4.4 nmol/mg Creatinine
3,5-Dihydroxybenzoic Acid <i>Microbial metabolite</i>	67.9		< 521.8 nmol/mg Creatinine
4-Hydroxybenzoic Acid <i>Hydroxybenzoic acid derivative</i>	3.0		1.4 - 15.7 nmol/mg Creatinine
Benzoic Acid <i>Glycine N-benzoyltransferase</i>	<dl		< 621.4 nmol/mg Creatinine
Hippuric Acid <i>Glycine conjugate of benzoate</i>	568.6		198.7 - 3104.6 nmol/mg Creatinine
Analytes Tested	Result		95% Reference Range
Fungal Assessment			
Arabinitol <i>Dehydrogenase</i>	1.1		< 9.0 nmol/mg Creatinine

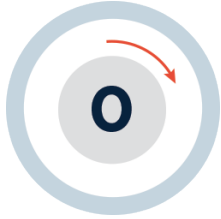
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SPOTLIGHT 5

Digestion & Microbial Metabolites

SPOTLIGHT Score

General Support Recommendations



SPOTLIGHT Score Key:

Scale 0-10. Higher score indicates more need for support.

Lifestyle and Supplement Tools for Digestion & Microbial Metabolites

Depending on your unique test outcomes, digestive enzymes, probiotics, collagen peptides, and/or certain botanicals to address microbial imbalance may be beneficial. Your health care provider may use this information to help determine proper selection and recommended intake related to supplement utilization, diet, and lifestyle changes.

Designs for Health Product Considerations

Supplement recommendations may include **Digestzymes™**, **GI Microb-X™**, **ProbioMed™-100**, and **Whole Body Collagen**.

Summary and Recommendations:

Below are your supplement recommendations, as determined by the algorithmic assessment of your test results. Your healthcare practitioner should review all recommendations and adjust them as needed, based on your age, personal health history, pregnancy or breastfeeding status, potential drug or nutrient interactions, contraindications, current supplement use, diet, lifestyle, and other relevant factors.

Designs for Health Product Recommendations

Name	How to Take
Amino-D-Tox™	Take 6 capsules per day between meals or as directed by your health-care practitioner.
CatecholaCalm™	Take 3 capsules per day or as directed by your health-care practitioner.
GlucoSupreme™ Herbal	Take 4 capsules per day with meals or as directed by your health-care practitioner (divided dosing recommended).
Homocystine Supreme™	Take 2 capsules per day with food, or as directed by your health-care practitioner.

*This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

The Designs for Health Spotlight™ tests are not diagnostic and are not eligible for coverage under Medicare, Medicaid, or medical insurance.

Designs for Health Metabolomics Spotlight™, Tricobalamin™, Trifolamin™, Glucosupreme™, CatecholaCalm™, DopaBoost™, Adrenatone™, 5-HTP Supreme™, OmegaEvail™, pharmaGABA®, Detox Antiox™, Amino-D-Tox™, Digestzymes™, GI Microb-X™, and ProbioMed™ are trademarks of Designs for Health Inc.

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Energy Metabolism



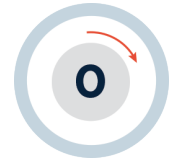
B-Vitamins



CNS-Neurotransmitters/
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Toxic Impacts



Digestion & Microbial
Metabolites

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Practitioner Recommendations:

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The assays were developed and/or the performance characteristics determined by Diagnostic Solutions Laboratory. The results are for research and not for diagnostic purposes.