



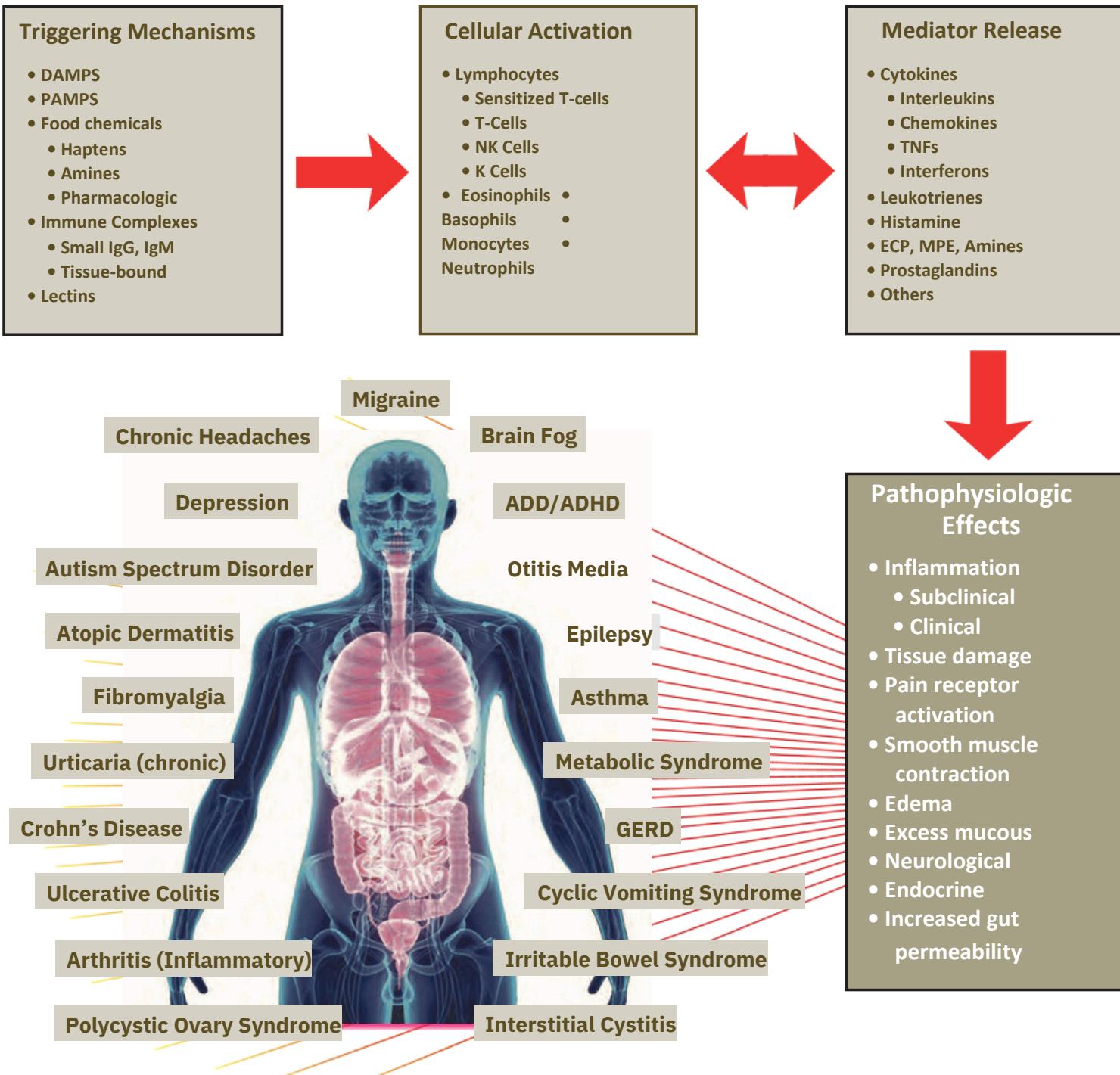
Food Sensitivity Testing

Food sensitivity testing has become an increasingly important tool in the realm of personalized healthcare. As our understanding of nutrition and its impact on health evolves, so does the recognition of the unique ways in which individuals respond to different foods. In this discourse, we explore the reasons why patients might consider food sensitivity testing as part of their journey towards optimal health and well-being.

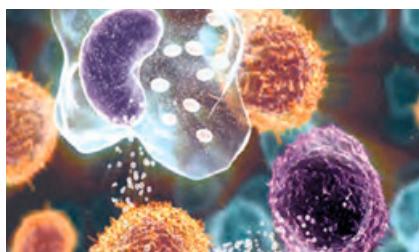
- 1. Unraveling Symptoms:** Many individuals suffer from a range of symptoms that are often dismissed or attributed to other causes. These symptoms can include digestive issues like bloating, gas, and diarrhea, as well as skin problems, headaches, fatigue, and joint pain. While these symptoms may seem unrelated, they could be indicative of underlying food sensitivities. Food sensitivity testing can help unravel these mysteries by identifying specific foods that may be triggering these symptoms.
- 2. Personalized Approach to Nutrition:** In a world where dietary trends abound and conflicting nutritional advice is rampant, personalized nutrition has emerged as a beacon of clarity. Food sensitivity testing allows individuals to gain insight into how their bodies react to different foods on a personal level. By identifying and eliminating or minimizing foods that cause sensitivity reactions, patients can tailor their diet to better suit their unique physiological needs, leading to improved overall health and well-being.
- 3. Enhancing Digestive Health:** The gut plays a crucial role in our overall health, acting as a gateway between the outside world and our internal systems. For many individuals, undetected food sensitivities can wreak havoc on digestive health, leading to inflammation, gut permeability, and dysbiosis. Food sensitivity testing can pinpoint problem foods that may be contributing to these issues, allowing patients to make targeted dietary changes that promote gut healing and restore balance.
- 4. Managing Chronic Conditions:** Certain chronic health conditions, such as autoimmune diseases, migraines, eczema, and irritable bowel syndrome (IBS), have been linked to food sensitivities. For individuals living with these conditions, identifying and eliminating trigger foods can be instrumental in managing symptoms and improving quality of life. Food sensitivity testing offers a non-invasive means of identifying potential triggers, empowering patients to take control of their health and manage their conditions more effectively.
- 5. Preventative Health:** In addition to addressing existing health concerns, food sensitivity testing can also play a role in preventive healthcare. By identifying and addressing food sensitivities early on, individuals can potentially prevent the development of chronic health conditions and promote long-term health and vitality.

Conclusion: Food sensitivity testing represents a valuable tool in the pursuit of personalized healthcare. By providing insight into individualized responses to food, it empowers patients to make informed dietary choices that support their unique needs and promote optimal health and well-being. As we continue to recognize the profound impact of nutrition on health, food sensitivity testing is poised to play an increasingly important role in guiding personalized dietary interventions and improving patient outcomes.

How Food Sensitivities Cause Inflammation



Food and food-chemical sensitivities are a category of complex, non-IgE (non-allergic), non-celiac inflammatory reactions. Sensitivities can involve innate and adaptive immune pathways, multiple triggering mechanisms and multiple classes of white blood cells. Pathogenic reactions ultimately lead to the release of proinflammatory and proalgesic mediators from associated white cells with resulting subclinical and clinical inflammatory effects. The patented Mediator Release Test (MRT®) can help identify sensitivity reactions to foods and food-chemicals.



The Challenges of Food Sensitivities



Food and food-chemical sensitivities are an important underlying source of inflammation and symptoms across a wide range of chronic inflammatory conditions. Patients are often refractory to standard therapies and typically present with multiple symptoms across multiple organ systems in an ebb and flow pattern. In patients with autoimmune and allergic disease, sensitivities are frequently co-morbid.

Food sensitivities are the result of the breakdown of oral tolerance mechanisms leading to many reactive foods and food-chemicals. Identification of reactive food items is a significant challenge as symptom onset is often delayed by many hours, may be dose-dependent and cumulative, and usually involve a number of reactive food items to varying degrees, which all play a role in clinical manifestation.

Due to their inherent clinical and immunologic complexities, as well as the limitations of various commercially available blood tests to identify dietary triggers, combined with poorly reasoned, poorly applied and poorly adhered- to dietary approaches geared towards solving the problem, food and food- chemical sensitivities remain one of the most under-addressed areas of conventional medicine.

Properly Addressing Food Sensitivities Will Have a Major Impact on Your Health

It will significantly and quickly improve clinical outcomes in many challenging patients (*up to full remission*) because an important source of inflammation has been addressed. It will clarify co-morbid disease processes that need intervention. It will enhance the effectiveness of every other therapy you use because an important source of inflammation has been removed.

Clinical Conditions Involving Food Sensitivities

Gastrointestinal

Irritable Bowel Syndrome
Functional Diarrhea
GERD
Crohn's Disease
Ulcerative Colitis
Microscopic Colitis
Lymphocytic Colitis
Cyclic Vomiting Syndrome

Neurological

Migraine ADD/ADHD
Autism Spectrum
Disorders Epilepsy
Depression Insomnia
Restless Leg Syndrome

Endocrine

Type II Diabetes
Metabolic Syndrome
Obesity

Musculoskeletal

Fibromyalgia
Inflammatory Arthritis
Chronic Fatigue Syndrome

Dermatological

Atopic Dermatitis
Urticaria Psoriasis

Gynecological

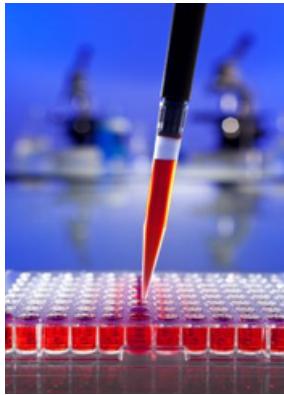
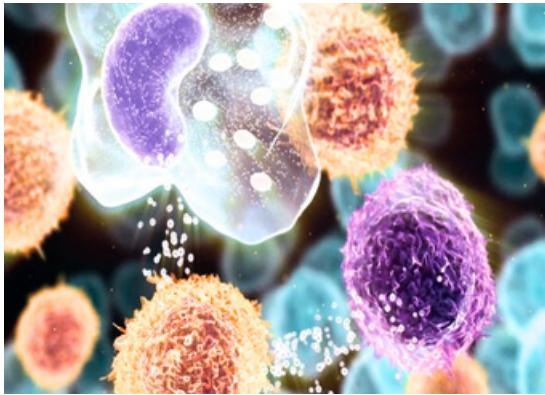
Polycystic Ovary Syndrome

Urological

Interstitial Cystitis



The Patented Mediator Release Test (MRT®)



Why MRT Provides Better Clinical Utility Than Other Food Sensitivity Blood Tests

Food sensitivities are a category of complex inflammatory reactions involving multiple innate and adaptive pathways and unique clinical nuances. Despite their inherent immunologic and clinical complexities, the endpoint of all diet-induced inflammatory reactions is release of proinflammatory and proalgesic mediators from associated white blood cells. Mediator release corresponds to measurable volumetric changes from reacting white cells.

Conversely, a large body of research has shown that elevated mechanisms in food sensitivity, such as food-specific IgG or immune complexes, do not reliably correlate with inflammation or symptoms.

Mediator release is the key event that leads to the negative physiologic effects your patients suffer.

The clinical utility of the patented Mediator Release Test (MRT) is unparalleled. MRT is a functional measurement of diet-induced sensitivity pathways to specific foods and chemicals that simplifies and quantifies a highly complex reaction. Not only does MRT give insight into inflammation-provoking foods and food-chemicals that would otherwise remain hidden, but more importantly MRT identifies your patient's BEST foods. These foods form the basis of their eating plan.

The bottom line is that MRT gives you valuable and relevant clinical information you can't get any other way, and that information directly translates into targeted therapy that reliably produces outstanding outcomes.

MRT is the foundation of fully addressing food sensitivities and achieving the maximum outcomes in the shortest period of time.

MRT at a Glance

Functional

- Quantifies the degree of inflammatory response after antigen challenge
- Accounts for clinical and subclinical inflammation
- Accounts for the widest range of triggering mechanisms
- Accounts for innate and adaptive pathways
- Tests reactions to foods & food-chemicals

Clinically Relevant

- Provides clinically relevant information no other blood test can provide
- Highest clinical utility
- Identifies your patient's best foods

Reliable

- > 90% split sample reproducibility

Innovative

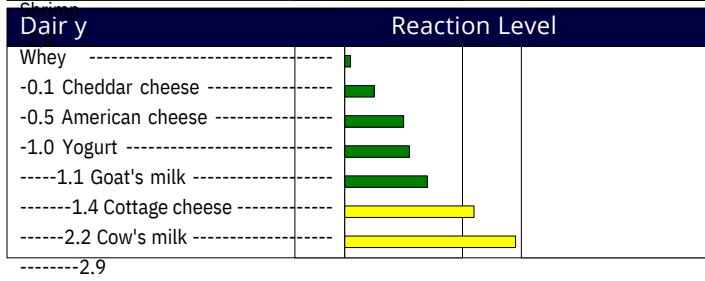
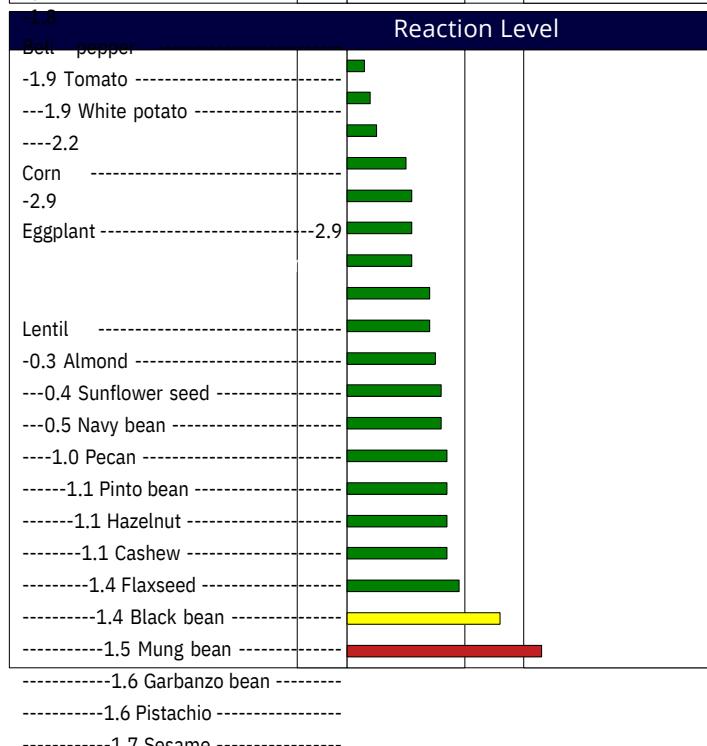
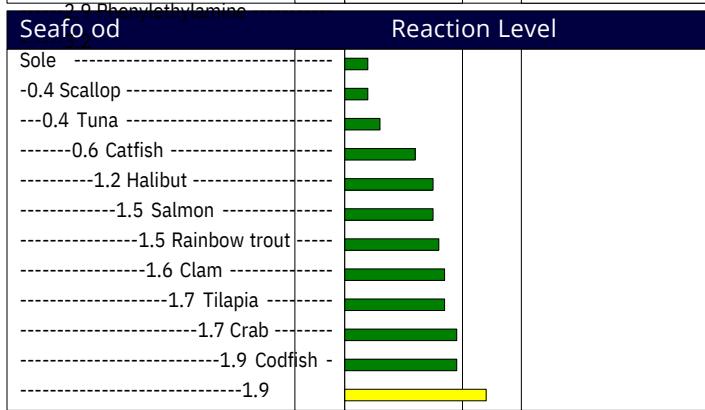
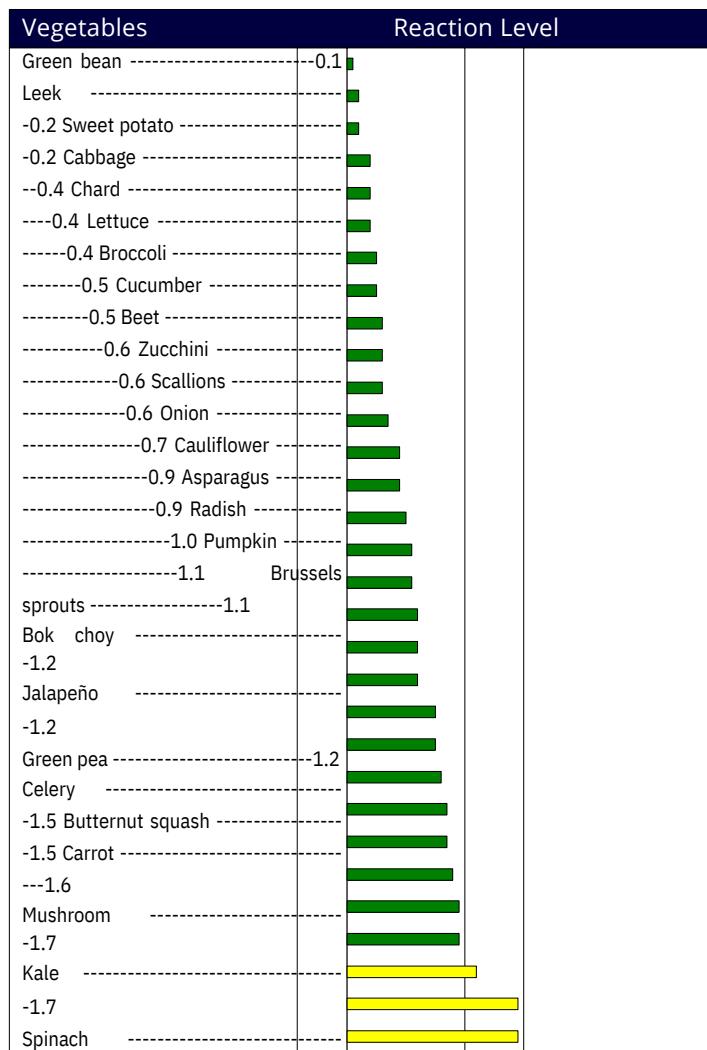
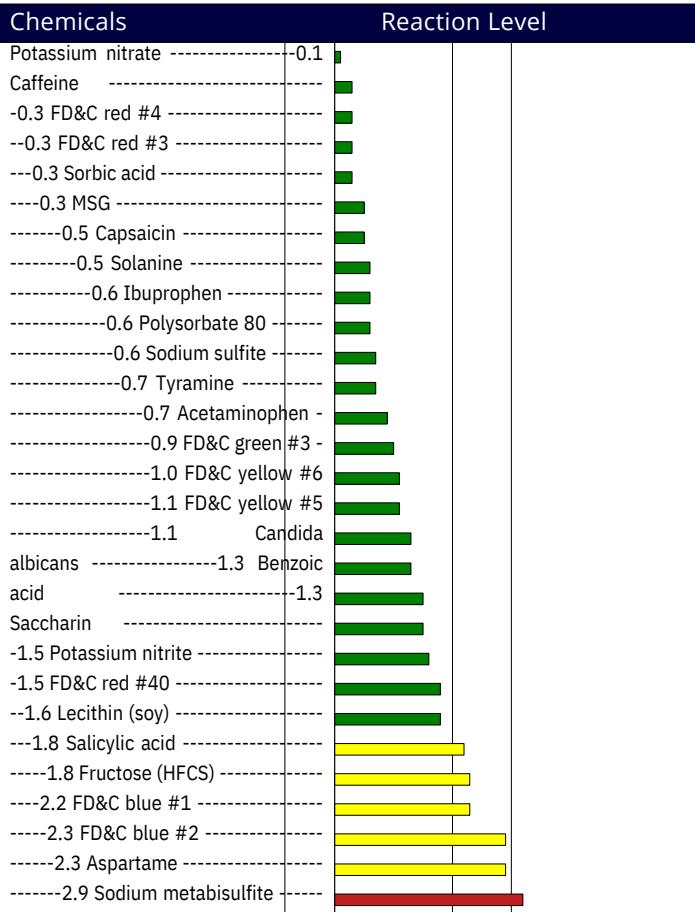
- Awarded 3 US patents



Physician: Sample Practitioner, MD
Patient: Sample Patient
Identifier: SAMPLE176
Profile: Test MRT 176
Date: 02/2 8/2 023
Technologist: GB
Page: 1 of 2



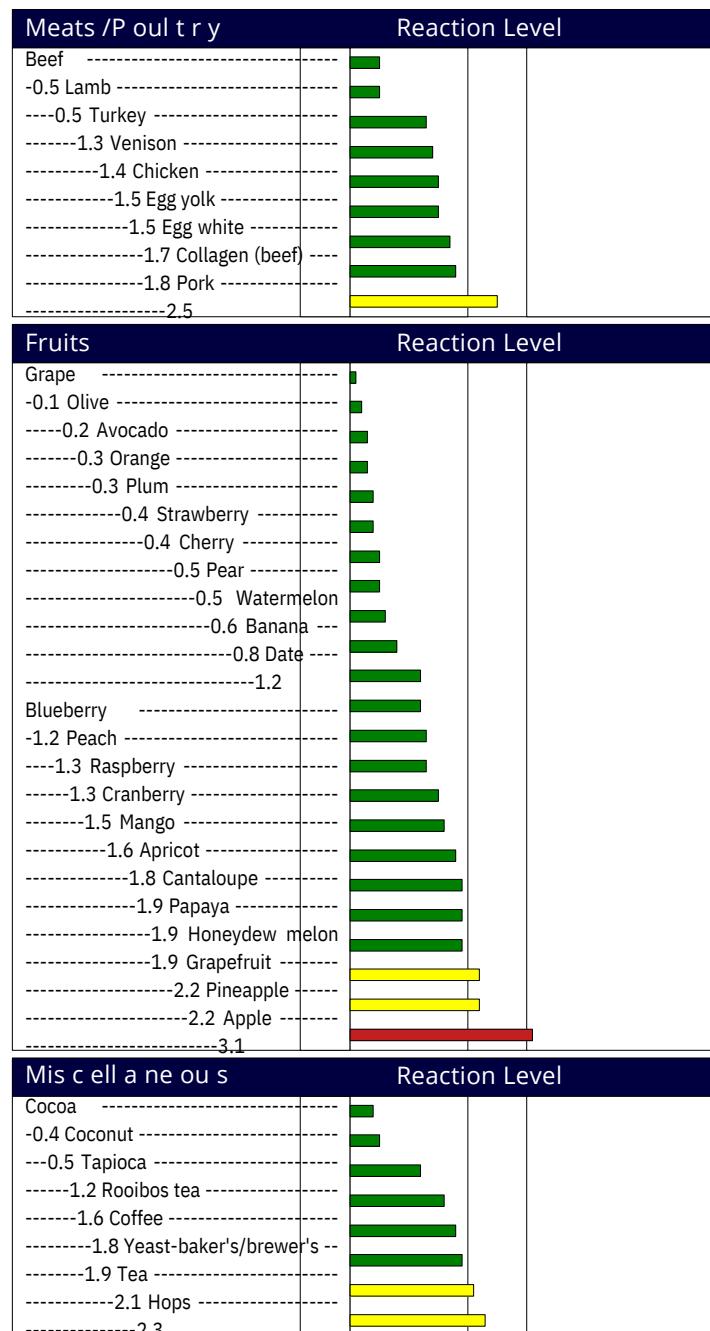
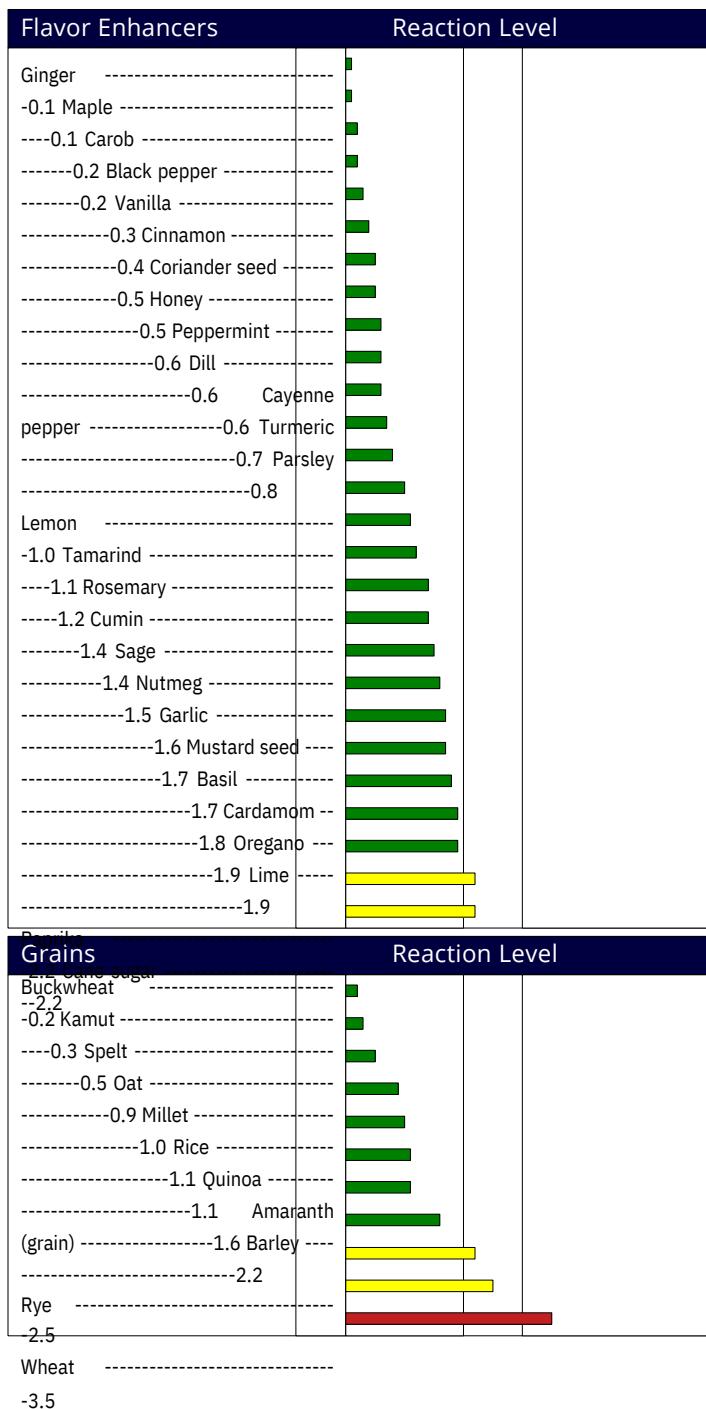
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 CLIA ID #: 10D0914874
 U.S. Patents: 6,114,174 6,200,815



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Interpretation: LAA-MRT™ test results are based on the Leukocyte Reactivity Index (LRI™), a proprietary algorithm developed by Oxford Biomedical Technologies. The LRI™ quantifies the relative degree of volumetric change of tested peripheral leukocytes and is a reflection of the degree of the inflammatory response to each tested item. LAA-MRT™ test results can form the basis of an anti-inflammatory eating plan developed under the guidance of a qualified healthcare practitioner. Disclaimer: It is recommended to completely avoid all tested items with Moderate or High reaction levels. Reintroduction of items that tested Moderate or High should be done under the supervision of a properly trained healthcare practitioner. If foods and chemicals that tested Low have been consumed regularly before testing, there is a high probability that they are not likely to provoke symptoms, as long as there is no history of allergic, autoimmune, or another form of inflammation-provoking or symptom-provoking reaction.



Oxford Biomedical Technologies – Publication List

A. Peer-Reviewed Manuscripts

1. Zarini GG, McLean MA, Delgado SI. Is Personalized Dietary Therapy Effective for Individuals With Irritable Bowel Syndrome? *Am J Lifestyle Med.* 2022 Jul 6;17(2):317-325. doi: 10.1177/15598276221112309. PMID: 36896039; PMCID: PMC9989498. <https://pubmed.ncbi.nlm.nih.gov/36896039/>
2. Zarini GG, Masters J, McLean MA, Strobel CT. Clinical and Anthropometric Improvements with a Tailored Dietary Approach in Pediatric Crohn's Disease. *Altern Ther Health Med.* 2021 Mar 13:AT6717. <https://pubmed.ncbi.nlm.nih.gov/33711815/>
3. Adamczak, DM. The Clinical Use of Mediator Release Test in Food Sensitivities. *Journal of Food Science and Engineering*, 1 (2018) 61-63 doi: 10.17265/2159-5828/2018.01.007. <http://www.davidpublisher.com/Public/uploads/Contribute/5aa87a8e491ec.pdf>
4. Pasula MJ, Nowak J. Particle size measurement in suspensions: Part 1--A laboratory method for exploring food allergies and sensitivities in illness. *Am Clin Lab.* 1999 May;18(4):16-8. <https://pubmed.ncbi.nlm.nih.gov/10539096/>
5. Pasula MJ. Particle size measurement in suspensions. Part 2: An in vitro procedure for screening adverse reactions to foods and chemicals. *Am Clin Lab.* 1999 Oct;18(9):14-5. <https://pubmed.ncbi.nlm.nih.gov/10623324/>
6. Kaczmarski M, Pasula M, Sawicka E, Werpacowska I. MRT test - New generation of tests for food hypersensitivity in children and adults. *Przeglad Pediatryczny.* 1997 (SUPLEMENT 1):61-65. <http://dietetykametaboliczna.com/publikacje/>

B. Published Abstracts

1. Zarini, G, McLean M, Delgado S, Lee L, Ondreyka J, Lee C, Linke S. Clinical Response to Personalized Dietary Therapy for Irritable Bowel Syndrome (IBS). *Journal of the Academy of Nutrition and Dietetics*, Volume 123, Issue 9, A24. [https://www.jandonline.org/article/S2212-2672\(23\)00881-X/fulltext](https://www.jandonline.org/article/S2212-2672(23)00881-X/fulltext).
2. McLean M, Zarini G, Delgado S, Lee L, Lee C, Ondreyka J, Patenaude J. P08-012-23. Evaluation of the Lifestyle Eating and Performance (LEAP) Program To Manage Symptoms and Quality of Life for Irritable Bowel Syndrome (IBS). *Current Developments in Nutrition*, Volume 7, 101147. Published in issue: July 2023. <https://doi.org/10.1016/j.cdnut.2023.101147>
3. Zarini G, McLean M. Effectiveness of the Lifestyle Eating and Performance (LEAP) program for Irritable Bowel Syndrome (IBS). *Am J Lifestyle Med.* 2023; 17 (Suppl 1): Page # 81. <https://doi.org/10.1177/15598276221128370>
4. Zarini G, McLean M. S572. A Pilot Study for Precision Nutrition in Irritable Bowel Syndrome: In-Vitro Stimulation of Pro-and Anti-inflammatory Cytokine Release. *The American Journal of Gastroenterology*: October 2022 - Volume 117 - Issue 10S - p e406. doi: 10.14309/01.ajg.0000858928.65055.a2.
5. McLean M, Zarini GG, Linke S. Personalized Dietary Intervention for Women with Depression and Anxiety. *Journal of the Academy of Nutrition and Dietetics*. Vol. 122 Issue 9 Supplement A23. Published in issue: September 2022. <https://doi.org/10.1016/j.jand.2022.06.084>
6. Zarini G, McLean M. Study Protocol: Effectiveness of the Lifestyle Eating and Performance (LEAP) Program for the Treatment of Irritable Bowel Syndrome (IBS). *Current Developments in Nutrition*, Volume 6, Issue Supplement_1, June 2022, Page 1162. <https://doi.org/10.1093/cdn/nzac072.034>
7. Linke S, Zarini G, McLean M. Personalized Dietary Approach for Rhinitis and Sinusitis. *Journal of the Academy of Nutrition and Dietetics*, Volume 121, Issue 9, A28. Published in issue: September 2021. <https://jandonline.org/action/doSearch?text1=Personalized+Dietary+Approach+for+Rhinitis+and+Sinusitis&field1>AllField>



8. Linke S, Zarini G, McLean M, Hogan J, Hogan P, Patenaude J. Tailored Dietary Approach for Individuals with Migraine. *Current Developments in Nutrition*, Volume 5, Issue Supplement_2, June 2021, Page 849. https://doi.org/10.1093/cdn/nzab047_012
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11. Patenaude J & Bright D. Clinical improvement of IBS, migraine, fibromyalgia and arthritis using elimination diets based on mediator release blood testing. *Journal of the American Dietetic Association*, Volume 109, Issue 9, Supplement, 2009, Page A32, ISSN 0002-8223. <http://www.sciencedirect.com/science/article/pii/S0002822309008645>
12. Williams F. Use of the LEAP mediator release test to identify non-IgE mediated immunologic food reactions that trigger diarrhea predominant IBS symptoms results in marked improvement of symptoms through use of an elimination diet. *American Journal of Gastroenterology*: October 2004 - Volume 99 - Issue - P S277-S278. https://journals.lww.com/ajg/Fulltext/2004/10001/USE_OF_THE_LEAP_MEDIATOR_RELEASE_TEST_TO_IDENTIFY.847.aspx

C. Book Chapter

1. Susan Linke. Chapter 23: Irritable Bowel Syndrome: The other Inflammatory Disease. AAPI'S Nutrition Guide to Optimal Health Using Principles of Functional Medicine & Nutritional Genomics Part III - 2017. ISBN: 978-1-5323-4393-3. <https://www.aapiusa.org/wp-content/uploads/2020/04/Functional-Medicine-and-Nutritional-Genomics.pdf>

D. Magazine Publications

1. Patenaude J. Behavioral Nutrition Health Roundtable. Obesity in the age of weight neutrality: How are registered dietitian nutritionists responding to the challenge? *Academy of Nutrition and Dietetics. BH Newsletter*, Spring 2020, Volume 37 No. 1, Page 5. https://www.bhndpg.org/wp-content/uploads/2020/07/BHNews-Spring2020_FINAL-2.pdf
2. Joy Manning. I Wondered If How I Felt Had Anything to Do with Food. *Epicurious Magazine*. November 11, 2019. <https://www.epicurious.com/expert-advice/crohns-disease-how-i-felt-had-to-do-with-food-article>
3. Lindsey Getz. Today's Dietitian Fifth Annual Showcase of 10 Incredible RDs Who Are Making a Difference. *Today's Dietitian*, March 2014 Issue, Vol. 16 No. 3 P. 24 <http://viewer.zmags.com/publication/b89b9abd#/b89b9abd/1>
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5. Aglaée Jacob. Elimination Diet Protocols. *Today's Dietitian*, July 2013 Issue, Vol. 15 No. 7 P. 10. <https://www.todaysdietitian.com/newarchives/070113p10.shtml>
6. Karen Appold. Migraine Headaches – Here's How to Identify Food Triggers and Reduce Debilitating Symptoms. *Today's Dietitian*. November 2012 Issue, Vol. 14 No. 11 P. 14. <https://www.todaysdietitian.com/newarchives/111412p14.shtml>



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10. Susan Linke. Food Sensitivities: The Hidden Cause of Your Health Problem? 2009. CeliacCentral.org. <https://www.beyondceliac.org/SiteData/docs/Food%20Sensi/97aba03fccee664a/Food%20Sensitivities%20by%20Susan%20Linke.pdf>
11. Alternative approach to IBS and migraine is winning over providers. Dis Manag Advis. 2004;10(1):6-1.
<https://pubmed.ncbi.nlm.nih.gov/15007999/>

E. Poster Presentations/Conferences

1. Ceresnie M, Ondreyka J, Ezekwe N, Zarini G, McLean M, Hamzavi IH. Bridging the gap between personalized diet and dermatology in clinical trials: a prospective pilot study in patients with hidradenitis suppurativa. Integrative Dermatology Symposium, 2022.
<https://integrativedermatologysymposium.com/2022-poster-presentations/>
2. Ceresnie M, Ondreyka J, Ezekwe N, Zarini G, McLean M, Hamzavi IH. A prospective pilot study on the clinical outcomes of the LEAP program in HS patients. American Medical Association (AMA) Research Challenge, 2022.
3. Ceresnie M, Ondreyka J, Ezekwe N, Zarini G, McLean M, Hamzavi IH. Hidradenitis suppurativa and the Lifestyle Eating and Performance program: A prospective pilot study. Symposium on Hidradenitis Suppurativa Advances (SHSA), 2022.
4. Zarini GG, McLean MA, Ondreyka J. Tailored Dietary Approach for Inflammatory Skin Disorders. FASEB Conference: The Nutrition, Immunity, and Inflammation Conference: From Model Systems to Human Trials – VIRTUAL, July 2021.
5. Linke S, Patenaude J, Zarini GG, McLean MA. Tailored Dietary Approach to Manage Irritable Bowel Syndrome. Lifestyle Medicine Conference. Virtual, October 2020.
6. Bethel LJ. Self-assessment of frequency and severity of symptoms with chronic inflammatory conditions following a patient-specific elimination diet and food reintroduction plan. Florida Dietetic Association Annual Meeting. Orlando, FL, July 2010.

F. Webinars

1. Michael A. McLean. The Mediator Release Test (MRT): An Advanced and Innovative Diagnostic Tool Used to Unmask the Foods that Contribute to your Diet-Induced Inflammation. Functional Diagnostic Nutrition. April 2, 2022. <https://www.functionaldiagnosticnutrition.com/hsu-lecture-series-watch-michael-a-mclean-ph-d/>
2. Michael A. McLean. Quality of the MRT Food Sensitivity Test. Functional Diagnostic Nutrition. August 12, 2021. <https://www.fdnconnect.com/dress-for-health-success-dr-michael-mclean-of-oxford-biomedical-labs-on-the-quality-of-the-mrt-food-sensitivity-test/>
3. Jan Patenaude. Taking the Guesswork Out of Testing for Food Sensitivities. Webinar: Transformational Enzyme Corp. April 21, 2021. <https://register.gotowebinar.com/register/5319517933097797134>



G. Radio & Podcast Interviews

1. Susan Linke. Food Sensitivities. Healthy by Nature, June 12, 2021.
<https://podcasts.apple.com/us/podcast/june-12th-2021-guest-susan-linke-mba-ms-rd-ld-clt-jack/id1144237072?i=1000525260686>
2. Susan Linke. The Complete Guide to Food Sensitivity Testing: FUELED | wellness + nutrition with Molly Kimball, October 10, 2020. <https://www.yiuu.de/podcast/fueled-wellness-nutrition-with-molly-kimball/the-complete-guide-to-food-sensitivity-testing/>
3. Susan Linke. The Whole Scoop Radio Show. Naturally Nutrition Inc, A Holistic Approach. Episode 4: "Reversing Disease"; Episode 5: "Leaky Gut: No Need to Call a Plumber, Learn How to Fix Yourself"; Episode 14: "Inflammation and Chronic Illness: What's Food Got to Do with it?"; Episode 64: Inflammation: "What you really need to know"; Episode 77: "Eating out – Do we have a choice?" August 21, 2019. <http://www.naturallynutritioninc.com/the-whole-scoop-radio-show-archives/>
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<http://namastenutritionist.com/leaky-gut-your-microbiome-food-sensitivities/>
7. Susan Linke. Food sensitivities. Healthy by Nature radio, May 21, 2016. <https://hbnshow.com/archives/may-21st-2016/>
8. Jan Patenaude. Identifying Your Migraine Triggers. Real Food Radio. May 17, 2016.
<https://bostonfunctionalnutrition.com/real-food-radio-episode-011-identifying-your-migraine-triggers/>
9. Jan Patenaude. Migraines: Triggers, Tests and Solutions. Wholify. February 29, 2016.
<https://www.wholify.com/migraines/>
10. Jan Patenaude. Namaste Nutritionist- Migraines, Nutrition & Food Sensitivities. December 17, 2015.
<http://namastenutritionist.com/migraines-nutrients-food-sensitivities/>
11. Susan Linke. Fun with food. Healthy by Nature radio, April 16, 2011. <https://hbnshow.com/archives/april-16th-2011/>

H. Publications in Progress/ Preparation

1. Ceresnie M, Ondreyka J, Ezekwe N, Zarini G, McLean M, Hamzavi IH. The Lifestyle Eating and Performance (LEAP) program for patients with hidradenitis suppurativa Hurley stages I-II: a pilot study. In progress.