



THE DOCTORS
LABORATORY



BIOLAB MEDICAL UNIT
NUTRITIONAL AND ENVIRONMENTAL MEDICINE
LONDON ENGLAND
www.biolab.co.uk

GENOVA
DIAGNOSTICS[®]
EUROPE



SCIENCE + INSIGHT

A clinical laboratory providing innovative,
accurate specialty testing since 1972.



BRITISH SOCIETY FOR
ECOLOGICAL MEDICINE



INVIVO
CLINICAL

AONM
ACADEMY of NUTRITIONAL MEDICINE

Lab testing and supplements

BSEM Training Day

18th May 2018

Gilian Crowther ND/NT, CNHC reg.

Hallam Conference Centre



regenerus
laboratories



detoxpeople



Sales
at Dr Myhill

Agenda

**Which labs and supplements are readily available in the UK
and suitable for clinicians working in the field of ecological medicine?**

- **Lab tests – Focus on the gut**

- Comprehensive gut profiles
- Intestinal permeability
- Gluten sensitivity/coeliac disease
- Breath tests
- Histamine intolerance/MCAS
- Organic acids
- Bacterial/viral infections

- **Supplement suppliers**

Comprehensive gut profiles: Genova Diagnostics vs. Doctors Data (DD)

- **Genova Diagnostics**

- **Microbiology**

- **Microbial ecology profile**

- **GI Effects – can also order “with helminths and ova”**

- **Doctors Data**

- **Bacteriology profile**

- **Microbiology profile**

- **CDSA + Parasitology x1**

- **CDSA + Parasitology x3**

Genova Diagnostics: Microbiology - Stool

Microbiology



63 Zillicoa Street
Asheville, NC 28801
© Genova Diagnostics

Patient: **SAMPLE**
PATIENT

Age:
Sex:
MRN:

Microbiology

Bacteriology

Beneficial Bacteria

Lactobacillus species	<input type="text" value="<NG"/>
Escherichia coli	<input type="text" value="<NG"/>
Bifidobacterium	<input type="text" value="<NG"/>

Additional Bacteria

Klebsiella pneumoniae	<input type="text" value="NP"/>	<input type="text" value="3+"/>
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Mycology

Geotrichum species	<input type="text" value="PP"/>	<input type="text" value="3+"/>
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Additional Tests (if ordered)

Inside	Outside	Reference Range
<input type="text" value="Not Ordered"/>	<input type="text" value=""/>	Negative
Campylobacter specific antigen		
<input type="text" value="Not Ordered"/>	<input type="text" value=""/>	Negative
Enterohemorrhagic Escherichia coli Shiga-like Toxin		

Human microflora is influenced by environmental factors and the competitive ecosystem of the organisms in the GI tract. Pathological significance should be based upon clinical symptoms and reproducibility of bacterial recovery.

Microbiology Legend

*NG	NP	PP	P
<input type="text" value="*NG"/>	<input type="text" value="NP"/>	<input type="text" value="PP"/>	<input type="text" value="P"/>
No Growth	Non-Pathogen	Potential Pathogen	Pathogen

Commentary

Commentary is provided to the practitioner for educational purposes, and should not be interpreted as diagnostic or treatment recommendations. Diagnosis and treatment decisions are the responsibility of the practitioner.

Low levels of E. coli, Lactobacilli and Bifidobacteria were noted in the stool. The "friendly bacteria", Lactobacilli and Bifidobacteria, are important for gastrointestinal function, as they are involved in vitamin synthesis, natural

Analyses:

- Beneficial bacteria
- Imbalanced gut flora
- Additional bacteria
- Mycology
- Bacterial sensitivity

Prescriptive Agents

KLEBSIELLA PNEUMONIAE

	S	I	R
Trimethoprim/Sulfa	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value="R"/>
Clindamycin	<input type="text" value="S"/>	<input type="text" value=""/>	<input type="text" value=""/>
Gentamicin	<input type="text" value=""/>	<input type="text" value="I"/>	<input type="text" value=""/>

S Indicates susceptibility to prescriptive agents

I Indicates intermediate susceptibility to prescriptive agents

R Indicates resistance to prescriptive agents

Natural Agents

KLEBSIELLA PNEUMONIAE

	Low Inhibition	High Inhibition
Berberine	<input type="text" value=""/>	<input type="text" value=""/>
Oregano	<input type="text" value=""/>	<input type="text" value=""/>
Plant Tannins	<input type="text" value=""/>	<input type="text" value=""/>
Uva-Ursi	<input type="text" value=""/>	<input type="text" value=""/>

Azole Antifungals

GEOTRICHUM SPECIES

	S	I	R
Fluconazole	<input type="text" value="<=2"/>	<input type="text" value=""/>	<input type="text" value=""/>
Itraconazole	<input type="text" value="<=0.125"/>	<input type="text" value=""/>	<input type="text" value=""/>
Ketoconazole	<input type="text" value="=0.5"/>	<input type="text" value=""/>	<input type="text" value=""/>

S Indicates susceptibility to prescriptive agents

I Indicates intermediate susceptibility to prescriptive agents

R Indicates resistance to prescriptive agents

Non-absorbed Antifungals

GEOTRICHUM SPECIES

	Low Inhibition	High Inhibition
Nystatin	<input type="text" value=""/>	<input type="text" value=""/>

Natural Antifungals

GEOTRICHUM SPECIES

	Low Inhibition	High Inhibition
Berberine	<input type="text" value=""/>	<input type="text" value=""/>
Caprylic Acid	<input type="text" value=""/>	<input type="text" value=""/>
Garlic	<input type="text" value=""/>	<input type="text" value=""/>
Undecylenic Acid	<input type="text" value=""/>	<input type="text" value=""/>
Plant tannins	<input type="text" value=""/>	<input type="text" value=""/>
Uva-Ursi	<input type="text" value=""/>	<input type="text" value=""/>

Genova Diagnostics: Microbial Ecology Profile - Stool



3425 Corporate Way
Duluth, GA. 30096



Patient:

DOB:

Sex:

MRN:

GI Effects™ Microbial Ecology Profile - Stool

Interpretation At-a-Glance

INFECTION

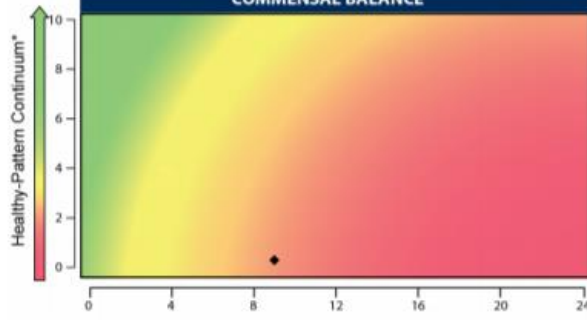


IMBALANCE

PP Bacteria ▲
PP Yeast/Fungi ★



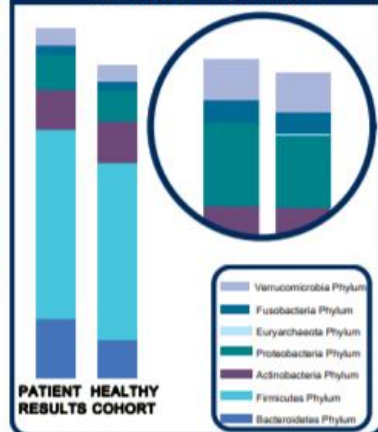
COMMENSAL BALANCE



*A progressive ranking scale based on a Genova proprietary algorithm that differentiates healthy and unhealthy commensal patterns.

**The total number of Commensal Bacteria (PCR) that are out of reference ranges for this individual.

RELATIVE ABUNDANCE



- **Commensal Bacteria**

More than 95% of commensal gut organisms are anaerobic and are difficult to recover by traditional (aerobic) culture techniques.

Polymerase Chain Reaction (PCR) methodology identifies bacterial populations and is considered the standard for anaerobic bacteria assessment.

Culture via MALDI-TOF (Matrix-assisted laser desorption/ionization time-of-flight mass spectrometer) *and* DNA via PCR

- **Bacterial and mycology screen**
- **Bacteria and mycology sensitivities**
- **Parasitology**

Genova: GI Effects Comprehensive Profile – Stool (1/5)



3425 Corporate Way
Duluth, GA 30096



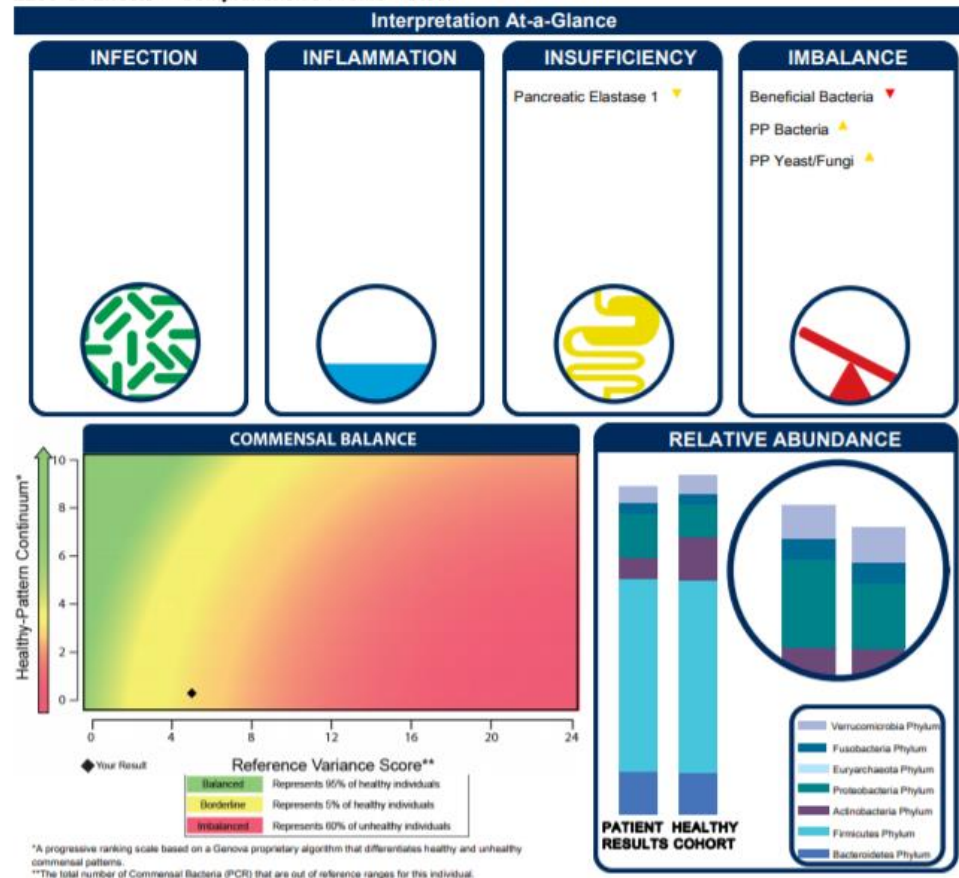
Patient:

DOB:

Sex:

MRN:

2200 GI Effects™ Comprehensive Profile - Stool



Most comprehensive:

- Digestion/absorption
- Gut inflammation/immunology
- Metabolic markers
- Commensal Bacteria
- Bacterial and mycology screen
- Bacteria and mycology sensitivities
- Parasitology

Genova: GI Effects Comprehensive Profile – Stool (2/5)



- Digestion/absorption
- Inflammation/immunology
- Metabolic markers

↓ pancreatic elastase: pancreatic insufficiency?

↑ products of protein breakdown: insufficient Hcl/pancreatic function?

↑ faecal fat: fat malabsorption

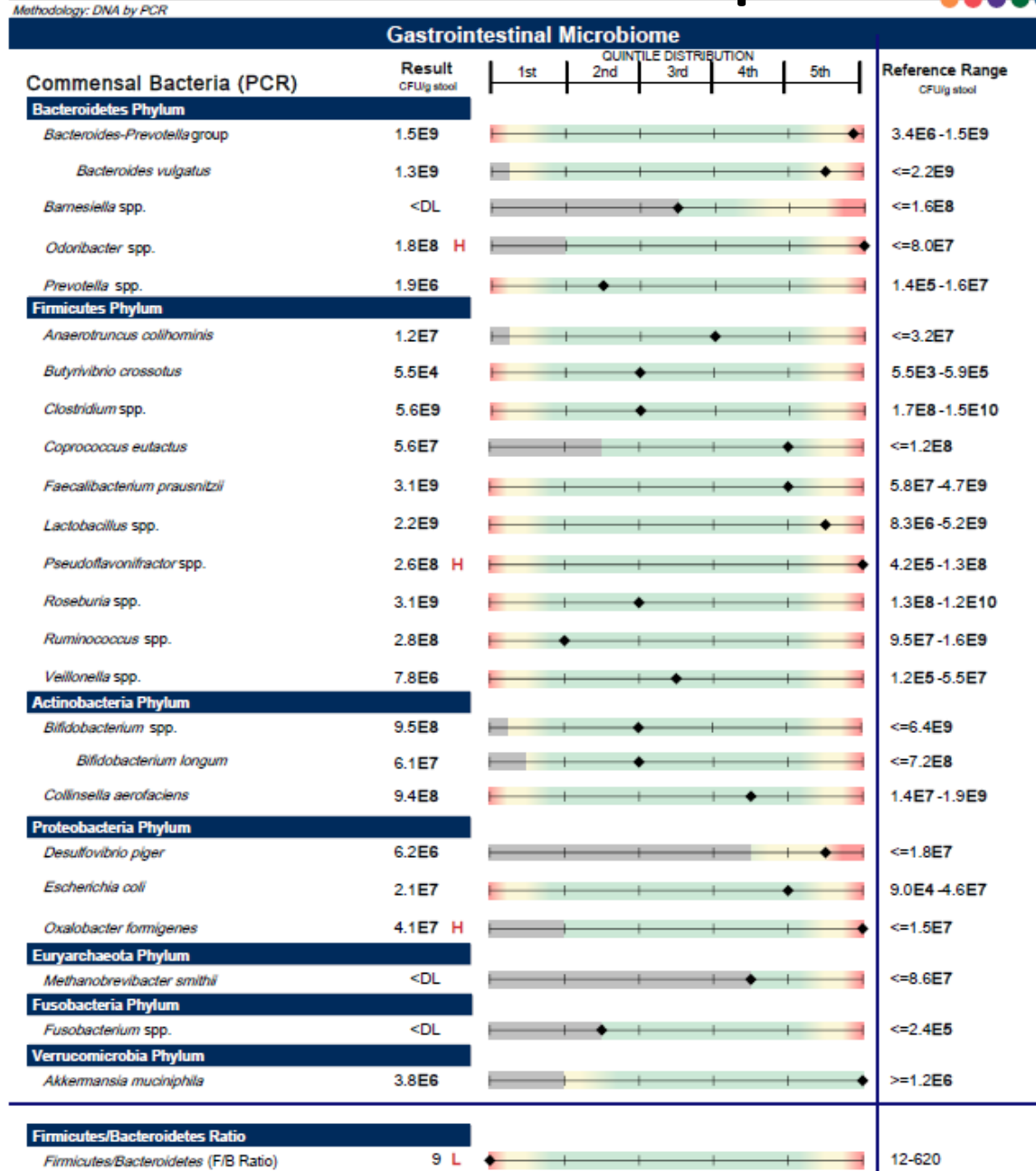
Calprotectin: marker for IBD; EPX sensitive marker of low-level inflammation

Faecal SIgA key antibody in the membranes of gastrointestinal and respiratory tract: too low or too high?

SCFAs produced by gut bacteria fermenting resistant starch and fiber: maintain intestinal barrier, fuel for colonocytes

Beta-glucuronidase: how well is the gut moving toxins?

Genova: GI Effects Comprehensive Profile – Stool (3/5)



- Composition and relative abundance of gut organisms
- 24 genera/species mapped to 7 major phyla

Genova: GI Effects Comprehensive Profile – Stool (4/5)

Gastrointestinal Microbiome

Bacteriology (Culture)		1+	2+	3+	4+
<i>Lactobacillus</i> spp.	NG				
<i>Escherichia coli</i>	4+ NP				
<i>Bifidobacterium</i>	4+ NP				
Additional Bacteria					
<i>alpha haemolytic Streptococcus</i>	3+ NP				
<i>Klebsiella oxytoca</i>	4+ PP				
<i>Bacillus species</i>	2+ NP				
<i>gamma haemolytic Streptococcus</i>	4+ NP				
Mycology (Culture)					
<i>Candida species</i>	3+ PP				
<i>Rhodotorula species</i>	1+ NP				

Parasitology

Microscopic Exam Results**

Blastocystis hominis: Many
Endolimax nana: Rare Trophozoite(s)

Parasitology
Parasite Recovery: Literature suggests that >90% of enteric parasitic infections may be detected in a sample from a single stool collection. Increased sensitivity results from the collection of additional specimens on separate days.

Parasitology EIA Tests:

	In Range	Out of Range
<i>Cryptosporidium</i> ♦	Negative	
<i>Giardia lamblia</i> ♦	Negative	
<i>Entamoeba histolytica</i> ♦	Negative	

Genova: GI Effects Comprehensive Profile – Stool (5/5)

Patient:

ID:

Page 9

Methodology: Vitek 2® System Microbial Antibiotic susceptibility, Manual Minimum Inhibition Concentration

Mycology Sensitivity					
Azole Antifungals					
Candida species	R	I	S-DD	S	NI
Fluconazole					<=0.25
Voriconazole					0.015
Non-absorbed Antifungals					
Candida species	LOW INHIBITION				HIGH INHIBITION
Nystatin					
Natural Agents					
Candida species	LOW INHIBITION				HIGH INHIBITION
Berberine					
Caprylic Acid					
Garlic					
Undecylenic Acid					
Plant tannins					
Uva-Ursi					

Additional Biomarkers Available:

Campylobacter

Clostridium difficile

Escherichia coli

Fecal Lactoferrin

Helicobacter pylori

Macro Exam for Helminths

Stool Zonulin

KOH Preparation for Yeast

Patient:

ID:

Page 10

Methodology: Vitek 2® System Microbial Antibiotic susceptibility, Manual Minimum Inhibition Concentration

Bacteria Sensitivity					
Prescriptive Agents					
<i>Klebsiella oxytoca</i>	R	I	S-DD	S	NI
Ampicillin	R				
Amox./Clavulanic Acid				S	
Cephalothin				S	
Ciprofloxacin				S	
Tetracycline				S	
Trimethoprim/Sulfa				S	
Natural Agents					
<i>Klebsiella oxytoca</i>	LOW INHIBITION				HIGH INHIBITION
Berberine					
Oregano					
Plant Tannins					
Uva-Ursi					

Full commentary and pathogenic organism chart (41 pages) available ...

<https://gdx.net/core/supplemental-education-materials/Pathogenic-Organism-Chart.pdf>

... and lots of teaching material:

<https://www.gdx.net/files/clinicians/medical-education/previous-webinars/2017/the-gi-effects-advanced-interpretation--digging-deeper.pdf>

Genova: CDSA (with parasitology if requested)



Comprehensive Digestive Stool Analysis



63 Zillicoa Street
Asheville, NC 28801
© Genova Diagnostics

Patient: **SAMPLE**
PATIENT

DOB:

Sex:

MRN:

Digestion		Absorption	
Chymotrypsin		Reference Range	0.9-26.8 U/g
Putrefactive SCFAs (Total*)			1.3-8.6 micromol/g
* Total values equal the sum of all measurable parts.			
Meat Fibers*	Inside: None, Outside:	Reference Range	None
Vegetable Fibers	Inside: Rare, Outside:		None - Few

Metabolic Markers		Microbiology	
Beneficial SCFAs (Total*)		Reference Range	>= 13.6 micromol/g
n-Butyrate			>= 2.5 micromol/g
Beta-Glucuronidase			337-4,433 U/g
pH*			6.1-7.9
* Total values equal the sum of all measurable parts.			
SCFA distribution			
Acetate %			44.5-72.4 %
Propionate %			<= 32.1 %
n-Butyrate %			10.8-33.5 %
Immunology			
Fecal Lactoferrin*	Inside: Negative, Outside:	Reference Range	Negative
Macroscopic			
Color	Brown, Outside:		Brown
Mucus	Negative, Outside:		Negative

Bacteriology	
Beneficial Bacteria	
Lactobacillus species	
Escherichia coli	
Bifidobacterium	
Additional Bacteria	
alpha haemolytic Streptococcus	NP
gamma haemolytic Streptococcus	NP
Mucoid Escherichia coli	NP
Klebsiella pneumoniae	PP
Enterobacter asburiae	NP
Staphylococcus aureus	PP
Mycology	
Yeast, not Candida albicans	NP

*NG NP PP P

- Less detail than in the GI Effects
- Only microbiology by culture, not PCR
- Lacks all the bacterial species mapped to 7 major phyla
- Bacterial and yeast sensitivity included

Doctors Data Bacteriology profile



LAB #: F000000-0000-0
PATIENT: Sample Patient
ID: P0000000000
SEX: Female
DOB:

AGE: 50

CLIENT #: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174 U.S.A.

Bacteriology Profile, stool

BACTERIOLOGY CULTURE		
Expected/Beneficial flora	Commensal (Imbalanced) flora	Dysbiotic flora
4+ Bacteroides fragilis group 3+ Bifidobacterium spp. NG Escherichia coli 2+ Lactobacillus spp. NG Enterococcus spp. 3+ Clostridium spp. NG = No Growth	2+ Alpha hemolytic strep	

BACTERIA INFORMATION
<p>Expected /Beneficial bacteria make up a significant portion of the total microflora in a healthy & balanced GI tract. These beneficial bacteria have many health-protecting effects in the GI tract including manufacturing vitamins, fermenting fibers, digesting proteins and carbohydrates, and propagating anti-tumor and anti-inflammatory factors.</p> <p>Clostridia are prevalent flora in a healthy intestine. Clostridium spp. should be considered in the context of balance with other expected/beneficial flora. Absence of clostridia or over abundance relative to other expected/beneficial flora indicates bacterial imbalance. If <i>C. difficile</i> associated disease is suspected, a Comprehensive Clostridium culture or toxigenic <i>C. difficile</i> DNA test is recommended.</p> <p>Commensal (Imbalanced) bacteria are usually neither pathogenic nor beneficial to the host GI tract. Imbalances can occur when there are insufficient levels of beneficial bacteria and increased levels of commensal bacteria. Certain commensal bacteria are reported as dysbiotic at higher levels.</p> <p>Dysbiotic bacteria consist of known pathogenic bacteria and those that have the potential to cause disease in the GI tract. They can be present due to a number of factors including: consumption of contaminated water or food, exposure to chemicals that are toxic to beneficial bacteria; the use of antibiotics, oral contraceptives or other medications; poor fiber intake and high stress levels.</p>

YEAST CULTURE	
Normal flora	Dysbiotic flora
not ordered	

MICROSCOPIC YEAST	
Result:	Expected:
N/A	None - Rare
Yeast in stool is expected at a level of none-rare. A microscopic finding of yeast in stool of few, moderate, or many may be helpful in identifying potential yeast overgrowth, or non-viable or dietary yeast.	

YEAST INFORMATION	
Yeast may normally be present in small quantities in the skin, mouth, and intestine. When investigating the presence of yeast, disparity may exist between culturing and microscopic examination. Yeast are not uniformly dispersed throughout the stool and this may lead to undetectable or low levels of yeast identified by microscopy, despite culture and identified yeast species. Conversely, microscopic examination may reveal a significant amount of yeast present but no viable yeast cultured. Yeast may not always survive transit through the intestines. Nonviable diet-derived yeast may also be detected microscopically. Consideration of clinical intervention for yeast detected microscopically should be made in the context of other findings and presentation of symptoms.	

Comments:	
Date Collected: 07/10/2017 Date Received: 07/13/2017 Date Reported: 07/20/2017	* Aeromonas, Campylobacter, Plesiomonas, Salmonella, Shigella, Vibrio, Yersinia, & Edwardsiella tarda have been specifically tested for and found absent unless reported.

No sensitivity, only bacteriology culture (MALDI-TOF) and – if requested – Mycology

Genova classes alpha and gamma haemolytic strep as NP, whereas DD always classes them in the “Imbalanced” (yellow) category

Explanation included with the test



Doctors Data Microbiology Profile



LAB #: F000000-0000-0
PATIENT: Sample Patient
ID: P00000000
SEX: Male
AGE: 3

CLIENT #: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174

Microbiology Profile, stool

BACTERIOLOGY CULTURE		
Expected/Beneficial flora	Commensal (Imbalanced) flora	Dysbiotic flora
NG Bacteroides fragilis group 4+ Bifidobacterium spp. 4+ Escherichia coli 3+ Lactobacillus spp. 1+ Enterococcus spp. 1+ Clostridium spp. NG = No Growth	2+ Enterobacter cloacae 3+ Gamma hemolytic strep 1+ Staphylococcus aureus	4+ Klebsiella oxytoca

BACTERIA INFORMATION
Expected/Beneficial bacteria make up a significant portion of the total microflora in a healthy & balanced GI tract. These beneficial bacteria have many health-protecting effects in the GI tract including manufacturing vitamins, fermenting fibers, digesting proteins and carbohydrates, and propagating anti-tumor and anti-inflammatory factors. Clostridia are prevalent flora in a healthy intestine. Clostridium spp. should be considered in the context of balance with other expected/beneficial flora. Absence of clostridia or over abundance relative to other expected/beneficial flora indicates bacterial imbalance. If <i>C. difficile</i> associated disease is suspected, a Comprehensive Clostridium culture or toxigenic <i>C. difficile</i> DNA test is recommended. Commensal (imbalanced) bacteria are usually neither pathogenic nor beneficial to the host GI tract. Imbalances can occur when there are insufficient levels of beneficial bacteria and increased levels of commensal bacteria. Certain commensal bacteria are reported as dysbiotic at higher levels. Dysbiotic bacteria consist of known pathogenic bacteria and those that have the potential to cause disease in the GI tract. They can be present due to a number of factors including: consumption of contaminated water or food, exposure to chemicals that are toxic to beneficial bacteria; the use of antibiotics, oral contraceptives or other medications; poor fiber intake and high stress levels.

YEAST CULTURE	
Normal flora	Dysbiotic flora
1+ Candida parapsilosis 1+ Candida rugosa 1+ Rhodotorula glutinis/mucilaginosa	

MICROSCOPIC YEAST		YEAST INFORMATION
Result: <div>None</div>	Expected: None - Rare	Yeast normally can be found in small quantities in the skin, mouth, intestine and mucocutaneous junctions. Overgrowth of yeast can infect virtually every organ system, leading to an extensive array of clinical manifestations. Fungal diarrhea is associated with broad-spectrum antibiotics or alterations of the patient's immune status. Symptoms may include abdominal pain, cramping and irritation. When investigating the presence of yeast, disparity may exist between culturing and microscopic examination. Yeast are not uniformly dispersed throughout the stool, this may lead to undetectable or low levels of yeast identified by microscopy, despite a cultured amount of yeast. Conversely, microscopic examination may reveal a significant amount of yeast present, but no yeast cultured. Yeast does not always survive transit through the intestines rendering it unviable.

Comments: Date Collected: 11/29/2011 Date Received: 12/1/2011 Date Completed: 12/12/2011	* <i>Aeromonas</i> , <i>Campylobacter</i> , <i>Plesiomonas</i> , <i>Salmonella</i> , <i>Shigella</i> , <i>Vibrio</i> , <i>Yersinia</i> , & <i>Edwardsiella tarda</i> have been specifically tested for and found absent unless reported.
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v5.09

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0001420



LAB #: F000000-0000-0
PATIENT: Sample Patient
ID: P00000000
SEX: Male
AGE: 3

CLIENT #: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174

Bacterial Susceptibilities: Klebsiella oxytoca

NATURAL ANTIBACTERIALS		
	Low Sensitivity	High Sensitivity
Berberine		
Black Walnut		
Caprylic Acid		
Oregano		
Uva Ursi		
Grapefruit Seed Extract		
Silver		

Natural antibacterial agents may be useful for treatment of patients when organisms display in-vitro sensitivity to these agents. The test is performed by using standardized techniques and filter paper disks impregnated with the listed agent. Relative sensitivity is reported for each natural agent based upon the diameter of the zone of inhibition surrounding the disk. Data based on over 5000 individual observations were used to relate the zone size to the activity level of the agent. A scale of relative sensitivity is defined for the natural agents tested.

PRESCRIPTIVE AGENTS			
	Resistant	Intermediate	Susceptible
Amoxicillin-Clavulanic Acid	R		S
Ampicillin			
Cefazolin			S
Ceftazidime			S
Ciprofloxacin			S
Trimeth-sulfa			S

Susceptible results imply that an infection due to the bacteria may be appropriately treated when the recommended dosage of the tested antimicrobial agent is used.

Intermediate results imply that response rates may be lower than for susceptible bacteria when agent is used.

Resistant results imply that the bacteria will not be inhibited by the tested antimicrobial agent.

Yeast Susceptibility

Susceptible results imply that an infection due to the bacteria may be appropriately treated when the recommended dosage of the tested antimicrobial agent is used.
Intermediate results imply that response rates may be bacteria when agent is used.
Resistant results imply that the tested agent is not inhibited.

Yeast Susceptibilities: Rhodotorula glutinis/mucilaginosa

NATURAL ANTIFUNGALS		
	Low Sensitivity	High Sensitivity
Berberine		
Caprylic Acid		
Uva Ursi		
Plant Tannins		
Oregano		
Undecylenic Acid		
Grapefruit Seed Extract		

Natural antifungal agents may be useful for treatment of patients when organisms display in-vitro sensitivity to these agents. The test is performed by using standardized techniques and filter paper disks impregnated with the listed agent. Relative sensitivity is reported for each natural agent based upon the diameter of the zone of inhibition surrounding the disk. Data based on over 5000 individual observations were used to relate the zone size to the activity level of the agent. A scale of relative sensitivity is defined for the natural agents tested.

NON-ABSORBED ANTIFUNGALS		
	Low Sensitivity	High Sensitivity
Nystatin		

Non-absorbed antifungals may be useful for treatment of patients when organisms display in-vitro sensitivity to these agents. The test is performed using standardized commercially prepared disks impregnated with Nystatin. Relative sensitivity is reported based upon the diameter of the zone of inhibition surrounding the disk.

Doctors Data: CDSA with Parasitology x3 (1/2)



LAB #: F000000-0000-0
PATIENT: Sample Patient
ID: P0000000000
SEX: Male
DOB:

AGE: 37

CLIENT #: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174 U.S.A.

Comprehensive Stool Analysis / Parasitology x3

BACTERIOLOGY CULTURE		
Expected/Beneficial flora	Commensal (Imbalanced) flora	Dysbiotic flora
4+ Bacteroides fragilis group NG Bifidobacterium spp. 4+ Escherichia coli 3+ Lactobacillus spp. 1+ Enterococcus spp.	2+ Alpha hemolytic strep 1+ Beta strep, not group A or B 2+ Hemolytic Escherichia coli	
4+ Clostridium spp. NG = No Growth		

BACTERIA INFORMATION

Expected /Beneficial bacteria make up a significant portion of the total microflora in a healthy & balanced GI tract. These beneficial bacteria have many health-protecting effects in the GI tract including manufacturing vitamins, fermenting fibers, digesting proteins and carbohydrates, and propagating anti-tumor and anti-inflammatory factors.

Clostridia are prevalent flora in a healthy intestine. Clostridium spp. should be considered in the context of balance with other expected/beneficial flora. Absence of clostridia or over abundance relative to other expected/beneficial flora indicates bacterial imbalance. If *C. difficile* associated disease is suspected, a Comprehensive Clostridium culture or toxigenic *C. difficile* DNA test is recommended.

Commensal (Imbalanced) bacteria are usually neither pathogenic nor beneficial to the host GI tract. Imbalances can occur when there are insufficient levels of beneficial bacteria and increased levels of commensal bacteria. Certain commensal bacteria are reported as dysbiotic at higher levels.

Dysbiotic bacteria consist of known pathogenic bacteria and those that have the potential to cause disease in the GI tract. They can be present due to a number of factors including: consumption of contaminated water or food, exposure to chemicals that are toxic to beneficial bacteria; the use of antibiotics, oral contraceptives or other medications; poor fiber intake and high stress levels.

YEAST CULTURE	
Normal flora	Dysbiotic flora
1+ Rhodotorula mucilaginosa	

MICROSCOPIC YEAST		YEAST INFORMATION
Result: Many	Expected: None - Rare	Yeast may normally be present in small quantities in the skin, mouth, and intestine. When investigating the presence of yeast, disparity may exist between culturing and microscopic examination. Yeast are not uniformly dispersed throughout the stool and this may lead to undetectable or low levels of yeast identified by microscopy, despite culture and identified yeast species. Conversely, microscopic examination may reveal a significant amount of yeast present but no viable yeast cultured. Yeast may not always survive transit through the intestines. Nonviable detected yeast may also be detected microscopically. Consideration of clinical intervention for yeast detected microscopically should be made in the context of other findings and presentation of symptoms.

Comments:

Date Collected: 06/30/2017
Date Received: 07/03/2017
Date Reported: 07/17/2017

* *Aeromonas, Campylobacter, Plesiomonas, Salmonella, Shigella, Vibrio, Yersinia, & Edwardsiella tarda* have been specifically tested for and found absent unless reported.



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LAB #: F000000-0000-0
PATIENT: Sample Patient
ID: P0000000000
SEX: Male
DOB:

AGE: 37

CLIENT #: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174 U.S.A.

Comprehensive Stool Analysis / Parasitology x3

PARASITOLOGY/MICROSCOPY	PARASITOLOGY INFORMATION
Sample 1 None Ova or Parasites Rare Yeast	Intestinal parasites are abnormal inhabitants of the gastrointestinal tract that have the potential to cause damage to their host. The presence of any parasite within the intestine generally confirms that the patient has acquired the organism through fecal-oral contamination. Damage to the host includes parasitic burden, migration, blockage and pressure. Immunologic inflammation, hypersensitivity reactions and cytotoxicity also play a large role in the morbidity of these diseases. The infective dose often relates to severity of the disease and repeat encounters can be additive.
Sample 2 None Ova or Parasites Few Yeast	There are two main classes of intestinal parasites, they include protozoa and helminths. The protozoa typically have two stages; the trophozoite stage that is the metabolically active, invasive stage and the cyst stage, which is the vegetative inactive form resistant to unfavorable environmental conditions outside the human host. Helminths are large, multicellular organisms. Like protozoa, helminths can be either free-living or parasitic in nature. In their adult form, helminths cannot multiply in humans.
Sample 3 None Ova or Parasites Many Yeast	In general, acute manifestations of parasitic infection may involve diarrhea with or without mucus or blood, fever, nausea, or abdominal pain. However these symptoms do not always occur. Consequently, parasitic infections may not be diagnosed or eradicated. If left untreated, chronic parasitic infections can cause damage to the intestinal lining and can be an unsuspected cause of illness and fatigue. Chronic parasitic infections can also be associated with increased intestinal permeability, irritable bowel syndrome, irregular bowel movements, malabsorption, gastritis or indigestion, skin disorders, joint pain, allergic reactions, and decreased immune function.
	In some instances, parasites may enter the circulation and travel to various organs causing severe organ diseases such as liver abscesses and cysticercosis. In addition, some larval migration can cause pneumonia and in rare cases hyper infection syndrome with large numbers of larvae being produced and found in every tissue of the body.
	One negative parasitology x1 specimen does not rule out the possibility of parasitic disease, parasitology x3 is recommended. This test is not designed to detect Cyclospora cayentanensis or Microsporidia spp.

GIARDIA/CRYPTOSPORIDIUM IMMUNOASSAY			
	Within	Outside	Reference Range
Giardia duodenalis	Neg	Neg	Neg
Cryptosporidium	Neg	Neg	Neg

Giardia duodenalis (AKA *intestinalis* and *lamblia*) is a protozoan that infects the small intestine and is passed in stool and spread by the fecal-oral route. Waterborne transmission is the major source of giardiasis.

Cryptosporidium is a coccidian protozoa that can be spread from direct person-to-person contact or waterborne transmission.

Most
comprehensive
DD GI test
Clearer pointers to
imbalanced flora
MALDI-TOF only
Tests for Crypto-
sporidium (not an
add-on)

Doctors Data: CDSA with Parasitology x3 (2/2)

Includes stool chemistry (can also be done separately)



LAB #: F000000-0000-0
PATIENT: Sample Patient
ID: P0000000000
SEX: Male
DOB:

AGE: 37

CLIENT #: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174 U.S.A.

Comprehensive Stool Analysis / Parasitology x3

DIGESTION / ABSORPTION				Elastase findings can be used for the diagnosis or the exclusion of exocrine pancreatic insufficiency. Correlations between low levels and chronic pancreatitis and cancer have been reported. Fat Stain: Microscopic determination of fecal fat using Sudan IV staining is a qualitative procedure utilized to assess fat absorption and to detect steatorrhea. Muscle fibers in the stool are an indicator of incomplete digestion. Bloating, flatulence, feelings of "fullness" may be associated with increase in muscle fibers. Vegetable fibers in the stool may be indicative of inadequate chewing, or eating "on the run". Carbohydrates: The presence of reducing substances in stool specimens can indicate carbohydrate malabsorption.
	Within	Outside	Reference Range	
Elastase		182	> 200 µg/mL	
Fat Stain	None		None - Mod	
Muscle fibers	None		None - Rare	
Vegetable fibers	Rare		None - Few	
Carbohydrates	Neg		Neg	

INFLAMMATION				Lactoferrin and Calprotectin are reliable markers for differentiating organic inflammation (IBD) from functional symptoms (IBS) and for management of IBD. Monitoring levels of fecal lactoferrin and calprotectin can play an essential role in determining the effectiveness of therapy, are good predictors of IBD remission, and can indicate a low risk of relapse. Lysozyme* is an enzyme secreted at the site of inflammation in the GI tract and elevated levels have been identified in IBD patients. White Blood Cells (WBC) and Mucus in the stool can occur with bacterial and parasitic infections, with mucosal irritation, and inflammatory bowel diseases such as Crohn's disease or ulcerative colitis.
	Within	Outside	Reference Range	
Lactoferrin	< 0.5		< 7.3 µg/mL	
Calprotectin*	< 10		<= 50 µg/g	
Lysozyme*	174		<= 600 ng/mL	
White Blood Cells	None		None - Rare	

	Within	Outside	Reference Range	
Mucus	Neg		Neg	

IMMUNOLOGY				Secretory IgA* (sIgA) is secreted by mucosal tissue and represents the first line of defense of the GI mucosa and is central to the normal function of the GI tract as an immune barrier. Elevated levels of sIgA have been associated with an upregulated immune response.
	Within	Outside	Reference Range	
Secretory IgA*		19.6	51 - 204 mg/dL	



LAB #: F000000-0000-0
PATIENT: Sample Patient
ID: P0000000000
SEX: Male
DOB:

AGE: 37

CLIENT #: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174 U.S.A.

Comprehensive Stool Analysis / Parasitology x3

SHORT CHAIN FATTY ACIDS				Short chain fatty acids (SCFAs): SCFAs are the end product of the bacterial fermentation process of dietary fiber by beneficial flora in the gut and play an important role in the health of the GI as well as protecting against intestinal dysbiosis. Lactobacilli and bifidobacteria produce large amounts of short chain fatty acids, which decrease the pH of the intestines and therefore make the environment unsuitable for pathogens, including bacteria and yeast. Studies have shown that SCFAs have numerous implications in maintaining gut physiology. SCFAs decrease inflammation, stimulate healing, and contribute to normal cell metabolism and differentiation. Levels of Butyrate and Total SCFA in mg/mL are important for assessing overall SCFA production, and are reflective of beneficial flora levels and/or adequate fiber intake.
	Within	Outside	Reference Range	
% Acetate	57		40 - 75 %	
% Propionate	20		9 - 29 %	
% Butyrate	19		9 - 37 %	
% Valerate	4.0		0.5 - 7 %	
Butyrate	2.3		0.8 - 4.8 mg/mL	
Total SCFA's	12		4 - 18 mg/mL	

INTESTINAL HEALTH MARKERS				Red Blood Cells (RBC) in the stool may be associated with a parasitic or bacterial infection, or an inflammatory bowel condition such as ulcerative colitis. Colorectal cancer, anal fistulas, and hemorrhoids should also be ruled out. pH: Fecal pH is largely dependent on the fermentation of fiber by the beneficial flora of the gut. Occult blood: A positive occult blood indicates the presence of free hemoglobin found in the stool, which is released when red blood cells are lysed.
	Within	Outside	Reference Range	
Red Blood Cells	None		None - Rare	
pH	6.4		6 - 7.8	

	Within	Outside	Reference Range	
Occult Blood	Neg		Neg	

MACROSCOPIC APPEARANCE			Color: Stool is normally brown because of pigments formed by bacteria acting on bile introduced into the digestive system from the liver. While certain conditions can cause changes in stool color, many changes are harmless and are caused by pigments in foods or dietary supplements. Consistency: Stool normally contains about 75% water and ideally should be formed and soft. Stool consistency can vary based upon transit time and water absorption.
	Appearance	Expected	
Color	Brown	Brown	

	Appearance	Expected	
Consistency	Soft	Formed/Soft	

Covers:

Digestion/absorption
Inflammation/immunity
Metabolic markers
in a similar manner

Also includes
bacterial/mycology
sensitivity

No bacterial species
mapped to major phyla
No PCR contrast for
NG species



5895 Shiloh Rd, Ste 101
Alpharetta GA 30005
877-485-5336

Patient: Ima Sample
Collected: 2/10/2018
DOB: 7/11/1981

Accession: 20180212-0001
Received: 2/12/2018
Completed:

Ordered by: Diane Farhi, MD

GI-MAP™ DNA Stool Analysis

Pathogens

Bacterial Pathogens	Result		Normal
<i>Campylobacter</i>	<dl		<1.00e3
<i>C. difficile</i> , Toxin A	1.21e5	High	<1.00e3
<i>C. difficile</i> , Toxin B	2.27e5	High	<1.00e3
<i>Enterohemorrhagic E. coli</i>	<dl		<1.00e3
<i>E. coli</i> O157	8.60e0		<1.00e3
<i>Enteroinvasive E. coli/Shigella</i>	<dl		<1.00e2
<i>Enterotoxigenic E. coli</i> LT/ST	<dl		<1.00e3
Shiga-like Toxin <i>E. coli</i> stx1	<dl		<1.00e3
Shiga-like Toxin <i>E. coli</i> stx2	<dl		<1.00e3
<i>Salmonella</i>	<dl		<1.00e4
<i>Vibrio cholerae</i>	<dl		<1.00e5
<i>Yersinia enterocolitica</i>	4.46e1		<1.00e5
Parasitic Pathogens	Result		Normal
<i>Cryptosporidium</i>	<dl		<1.00e6
<i>Entamoeba histolytica</i>	<dl		<1.00e4
<i>Giardia</i>	<dl		<5.00e3
Viral Pathogens	Result		Normal
Adenovirus 40/41	<dl		<1.00e10
Norovirus GI/II	<dl		<1.00e7

H. pylori

	Result		Normal
<i>Helicobacter pylori</i>	2.9e3	High	<1.0e3
Virulence Factor, babA	Positive		Negative
Virulence Factor, cagA	Positive		Negative
Virulence Factor, dupA	Negative		Negative
Virulence Factor, iceA	Negative		Negative
Virulence Factor, OipA	Negative		Negative
Virulence Factor, vacA	Negative		Negative
Virulence Factor, virB	Positive		Negative
Virulence Factor, virD	Positive		Negative

Normal Bacterial Flora

	Result		Normal
<i>Bacteroides fragilis</i>	1.1e11		1.60e9 - 2.50e11
<i>Bifidobacterium</i> spp.	2.4e10		>6.70e7
<i>Enterococcus</i> spp.	4.9e7		1.9e5 - 2.00e8
<i>Escherichia</i> spp.	6.1e5	Low	3.70e6 - 3.80e9
<i>Lactobacillus</i> spp.	3.7e4	Low	8.6e5 - 6.20e8
<i>Clostridium</i> spp.	6.25e6	High	1.20e3 - 1.00e6
<i>Enterobacter</i> spp.	9.16e6		1.00e6 - 5.00e7
Phyla Microbiota	Result		Normal
<i>Bacteroidetes</i>	4.33e11		1.00e10 - 5.00e11
<i>Firmicutes</i>	1.25e11	High	1.00e9 - 5.00e10
<i>Firmicutes:Bacteroidetes</i> Ratio	0.29		<1.00

Opportunistic Bacteria

Additional Dysbiotic/Overgrowth Bacteria	Result		Normal
<i>Bacillus</i> spp.	8.30e4		<1.50e5
<i>Enterococcus faecalis</i>	2.56e3		<1.00e4
<i>Enterococcus faecium</i>	1.11e3		<1.00e4
<i>Morganella</i> spp.	<dl		<1.00e3
<i>Pseudomonas</i> spp.	7.37e4	High	<1.00e4
<i>Pseudomonas aeruginosa</i>	<dl		<5.00e2
<i>Staphylococcus</i> spp.	1.93e4	High	<1.00e4
<i>Staphylococcus aureus</i>	1.23e1		<5.00e2
<i>Streptococcus</i> spp.	1.34e3	High	<1.00e3

Potential Autoimmune Triggers	Result		Normal
<i>Citrobacter</i> spp.	<dl		<5.00e6
<i>Citrobacter freundii</i>	<dl		<5.00e5
<i>Klebsiella</i> spp.	2.48e4	High	<5.00e3
<i>Klebsiella pneumoniae</i>	1.41e4		<5.00e4
<i>Mycobacterium tuberculosis (avium)</i>	<dl		<5.00e3
<i>Prevotella copri</i>	<dl		<1.00e7
<i>Proteus</i> spp.	<dl		<5.00e4
<i>Proteus mirabilis</i>	<dl		<1.00e3

Fungi/Yeast

	Result		Normal
<i>Candida</i> spp.	<dl		<5.00e3
<i>Candida albicans</i>	<dl		<5.00e2
<i>Geotrichum</i> spp.	<dl		<3.00e2
<i>Microsporidium</i> spp.	<dl		<5.00e3
<i>Rodotorula</i> spp.	<dl		<1.00e3

GI Map – additionally: parasites, worms, beta glucuronidase, immune markers, as well as antibiotic resistance genes

Viruses		
	Result	Normal
Cytomegalovirus	<dl	<1.00e5
Epstein Barr Virus	<dl	<1.00e7
Parasites		
	Result	Normal
Protozoa		
Blastocystis hominis	<dl	<2.00e3
Chilomastix mesnelli	<dl	<1.00e5
Cyclospora spp.	<dl	<5.00e4
Dientamoeba fragilis	<dl	<1.00e5
Endolimax nana	<dl	<1.00e4
Entamoeba coli	<dl	<5.00e6
Pentatrichomonas hominis	<dl	<1.00e2
	Result	Normal
Worms		
Ancylostoma duodenale	Not Detected	Not Detected
Ascaris lumbricoides	Not Detected	Not Detected
Necator americanus	Not Detected	Not Detected
Trichuris trichiura	Not Detected	Not Detected
Taenia spp.	Not Detected	Not Detected
Intestinal Health		
	Result	Normal
Digestion		
Elastase-1	388	>200 ug/g
Steatocrit	6	<15 %
	Result	Normal
GI Markers		
b-Glucuronidase	2584 High	<2486 U/mL
Fecal Occult Blood	Negative	Negative
	Result	Normal
Immune Response		
Secretory IgA	1873	510 - 2010 ug/g
Anti-gliadin IgA	15	0 - 157 U/L
	Result	Normal
Inflammation		
Calprotectin	22	<50 ug/g
	Result	Normal
Add-on Test		
Zonulin	186.4 High	<107 ng/g


Antibiotic Resistance Genes, phenotypes					
Helicobacter		Result		Expected Result	
Clarithromycin		Positive		Absent	
A2142C	Absent	A2142G	Absent	A2143G	Present
Fluoroquinolones		Negative		Absent	
gyrA N87K	Absent	gyrA D91N	Absent	gyrA D91G	Absent
gyrB S479N	Absent	gyrB R484K	Absent		
Antibiotic Resistance Genes, genotypes					
Universal Microbiota Resistance Genes					
b-lactamase		Positive		Absent	
TEM-70	Absence	CTXM3	Presence	SHV-24	Presence
VEB-1	Absence	OXA-30	Absence	CTXM35	Absence
toho-3	Absence	CTXM63	Absence	PER-1	Absence
PER-2	Presence	GES-3	Absence	NDM-1	Absence
Fluoroquinolones		Negative		Absent	
qnrA2	Absence	qnrB	Absence		
Macrolides		Positive		Absent	
ermA	Absence	ermB	Presence	ermC	Absence
mefE	Absence				
Vancomycin		Negative		Absent	
vanA1	Absence	vanA2	Absence	vanB	Absence
vanC	Absence				


Invivo Clinical


Invivo Clinical Ltd

[+44 \(0\)3332412997](tel:+441299333241)

Invivo Clinical Ltd., Unit 1
The New Warehouse,
Libby's Drive,
Stroud,
GL5 1RN



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☐ European Laboratory

☐ Great Plains Laboratory

☐ Immunosciences Lab

☐ Kashi Labs

☐ Microbiology Dx

☐ Omega Quant

☐ R.E.D. Labs

☐ RealTime Labs

☐ ZRT Laboratory

Sample Type

☐ Blood

☐ Bloodspot

☐ Breath Test

☐ Buccal Swab

☐ Dried Breast Milk

☐ Dried Urine

☐ Nasal Swab

☐ Plasma

☐ Saliva

1 of 8

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Next


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HORMONES

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Advanced Blood Chemistry Profile


£170.00



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Intestinal permeability

- Biolab
- Genova
- Doctors Data
- Cyrex

Biolab – Intestinal Permeability Profile

Biolab Medical Unit

9 Weymouth Street, London W1W 6DB, UK

Tel: (44) 020 7636-5959/5905 Fax: 020 7580-3910 E-mail: info@biolab.co.uk Internet: www.biolab.co.uk

Biolab reference: XXXX/YYYY/F15

Date: 02/06/2015

Clinician's reference:

Referred by:

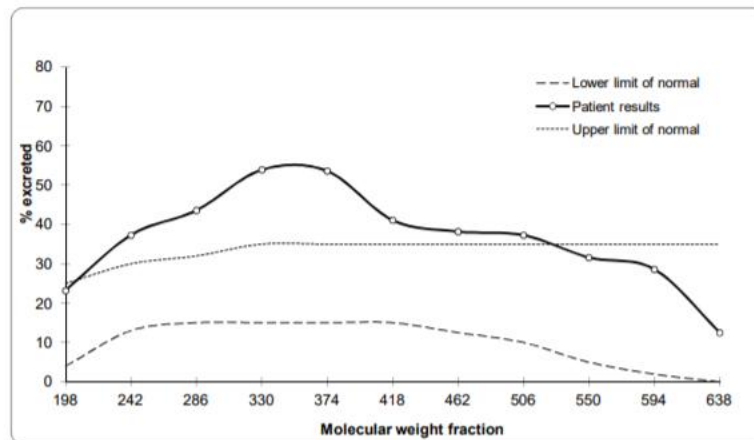
Patient: MRS SAMPLE PATIENT

Age: 48

Sex: Female

Intestinal Permeability Profile Using polyethylene glycol (PEG 400)

Fraction	Molecular weight	Dose (mg)	Recovery in urine (6 hour collection)		Reference range
			mg	%	
1	198	25.5	5.9	23.2	4.0 - 25.0
2	242	86.7	32.3	37.3	13.0 - 30.0
3	286	185.1	80.7	43.6	15.0 - 32.0
4	330	363.6	196.0	53.9	15.0 - 35.0
5	374	503.1	269.7	53.6	15.0 - 35.0
6	418	542.1	222.8	41.1	15.0 - 35.0
7	462	479.4	183.1	38.2	12.5 - 35.0
8	506	360.6	134.5	37.3	10.0 - 35.0
9	550	246.0	77.7	31.6	5.0 - 35.0
10	594	138.9	39.7	28.6	2.0 - 35.0
11	638	68.7	8.6	12.5	0.0 - 35.0
TOTAL:		3000	1251.1		



Comment:

Increase in gut permeability to PEG between molecular weights 242 and 506.

The PEG (polyethylene glycol) used contains a mixture of inert, water-soluble molecules of 11 different sizes, displaying decreasing mucosal transport with increasing molecular size.

If the villus or its enterocytes is damaged or irritated, the gaps between the cells become disrupted, increasing the size of the molecules that can be absorbed.

The results show the increase in gut permeability by individual molecular weight fraction.

Genova and Doctors Data



Intestinal Permeability (Urine)



63 Zillicoa Street
Asheville, NC 28801
© Genova Diagnostics



LAB#: F000000-0000-0
PATIENT: Sample Patient
SEX: Female
AGE: 42

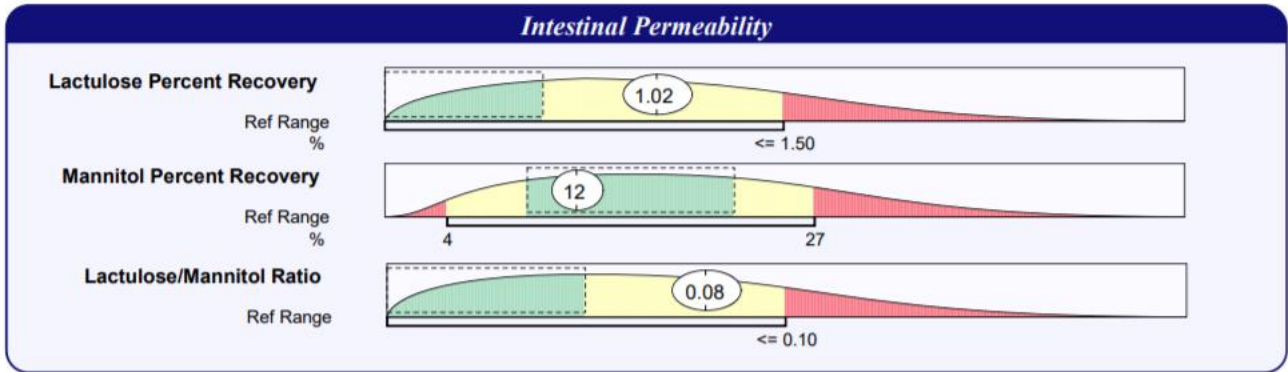
CLIENT#: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174

Patient: **MALE**
TEST
DOB: February 02, 1991
Sex: M
MRN: 0001558065

Order Number: **K8260251**
Completed: April 26, 2017
Received: April 26, 2017
Collected: April 26, 2017

Test Office
Test (PROD) Test MD, DO, ND
84 Peachtree Rd
Asheville, NC 28803

Lactulose/Mannitol Challenge Test



	Normal	Abnormal	Reference
Lactulose % recovery			0.1 - 0.6 %
Mannitol % recovery			2 - 24.5 %
Lactulose/Mannitol Ratio			≤ 0.05

Lactulose should not be metabolised in a healthy gut, and so should be excreted in the urine after 6hrs. If the test shows that more is taken up than normal, this indicates gut permeability.

Comments:
Lactulose, a disaccharide, normally penetrates poorly through the gastrointestinal barrier. An elevated level of Lactulose is indicative of hyper-permeability.

Mannitol, a monosaccharide, is readily absorbed and serves as a marker of transcellular uptake. A low percent recovery of Mannitol is indicative of malabsorption.

A high Lactulose/Mannitol ratio indicates an increase in gut permeability.

Cyrex Intestinal Antigenic Permeability Screen

TEST	RESULT			
	IN RANGE (Normal)	EQUIVOCAL*	OUT OF RANGE	REFERENCE (ELISA Index)
Array 2 – Intestinal Antigenic Permeability Screen				
Actomyosin IgA **	19.57			0.0-20
Occludin/Zonulin IgG	0.64			0.2-1.5
Occludin/Zonulin IgA	1.17			0.1-1.8
Occludin/Zonulin IgM	0.56			0.1-2.1
Lipopolysaccharides (LPS) IgG			2.49	0.1-1.6
Lipopolysaccharides (LPS) IgA			3.83	0.1-1.8
Lipopolysaccharides (LPS) IgM	0.96			0.1-2.0

This measuring antibodies to barrier proteins. It can therefore detect barrier damage long before there is dysregulation in absorptive function

It identifies antibodies against:

- 1) the tight junction proteins (occludin and zonulin)
- 2) the actomyosin network (a protein complex that maintains the plasticity of tight junctions)
- 3) an immune response to bacterial endotoxins –lipopolysaccharides

Gluten sensitivity/coeliac disease

- Genova Diagnostics
- Doctors Data
- Cyrex

Coeliac and gluten sensitivity: Genova/DD



63 Zillicoa Street
Asheville, NC 28801
© Genova Diagnostics

Celiac & Gluten Sensitivities IMMUNOLOGY

Patient: **SAMPLE
PATIENT**

Age:
Sex:
MRN:

Order Number:

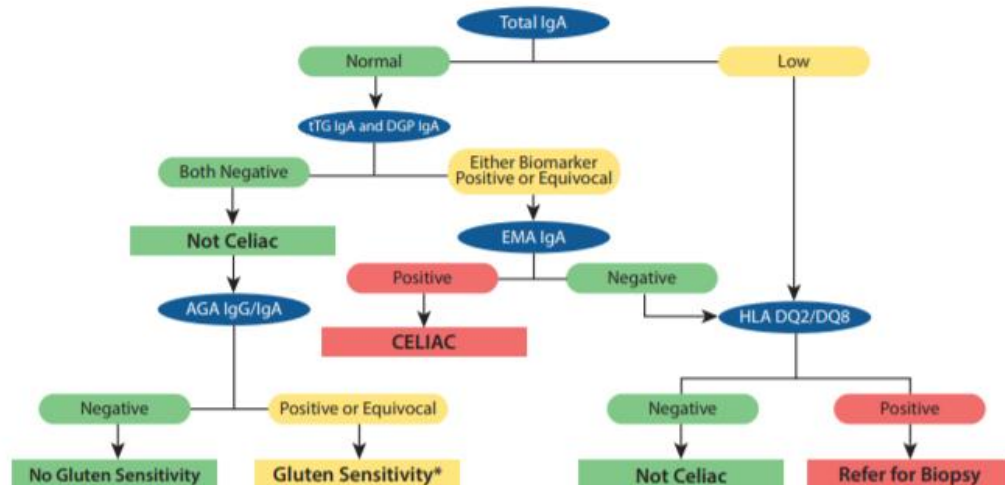
Completed:

Received:

Collected:

Immunological Markers			
Biomarker	Result		Reference Range
Total IgA	139.8	Sufficient	62.0-343.0 mg/dL
Anti-Tissue Transglutaminase IgA (tTG IgA)	2.1	Negative	<=4 U/mL
Anti-Deamidated Gliadin IgA (DGP IgA)	17.2	Negative	<=19 U/mL
Anti-Endomysial IgA (EMA IgA)	Not Detected		Not Detected
Anti-Gliadin IgA (AGA IgA)	21	Equivocal	<20 U/mL
Anti-Gliadin IgG (AGA IgG)	32	Positive	<20 U/mL

Interpretation	
Patient results are consistent with Gluten Sensitivity.	



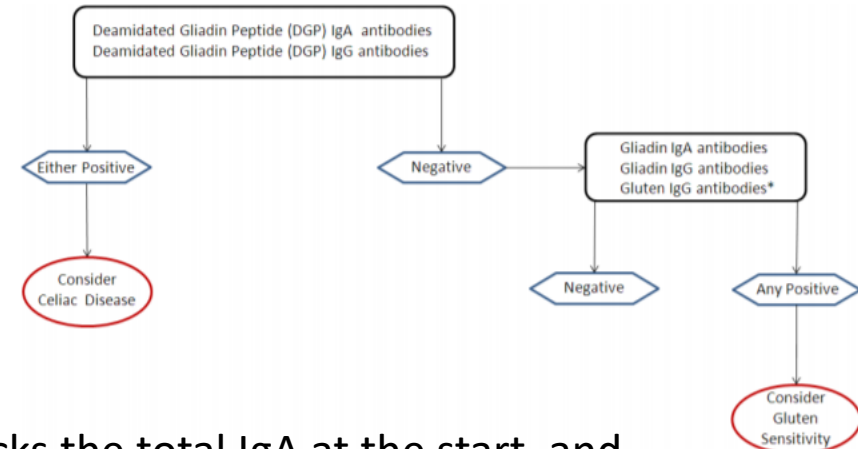
LAB #: B000000-0000-0
PATIENT: Sample Patient
ID: P000000000
SEX: Male
DOB: 01/01/1962 AGE: 52

CLIENT #: 12345
DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave.
St. Charles, IL 60174 U.S.A.

Celiac & Gluten Sensitivity; blood spot

ANTIBODIES					
	RESULT/UNIT	REFERENCE INTERVAL	NEG	WEAK POS	POSITIVE
Deamidated Gliadin Peptide (DGP) IgA	< 1.9 U	< 20			
Deamidated Gliadin Peptide (DGP) IgG	< 5.2 U	< 20			
Gliadin IgA	34 U	< 20			
Gliadin IgG	25 U	< 20			
Gluten IgG*	9.6 µg/mL	< 3			

Celiac Disease/Gluten Sensitivity Cascade



DD lacks the total IgA at the start, and
EMA IgA

If other markers –ve, HLA DQ2/DQ8
in the Genova panel

Gene reports can back this up

And sometimes prevent the need for a biopsy

Celiac Disease/Gluten Intolerance			
SNP Name	Risk Allele	Your Alleles	Your Results
FOLR1 G-20A	A	GG	-/-
FOLR2 G-1316A	A	AG	+/-
FOLR3 A3771G	G	AA	-/-
HLA	G	GG	+/+
HLA DQA1	T	CC	-/-

(Sterling App from MTHFR Support, further info later)

Cyrex Array 3 Wheat/Gluten Proteome Autoimmunity



**Cyrex available through
Regenerus Laboratories***

It also has been discovered that wheat is made up of more than 100 different components that can cause a reaction, not just one (gliadin).

Until now testing for Gluten Sensitivity has only been against one of those components, alpha gliadin. Through extensive research Cyrex pinpointed the twelve components of wheat that most often provoke an immune response.

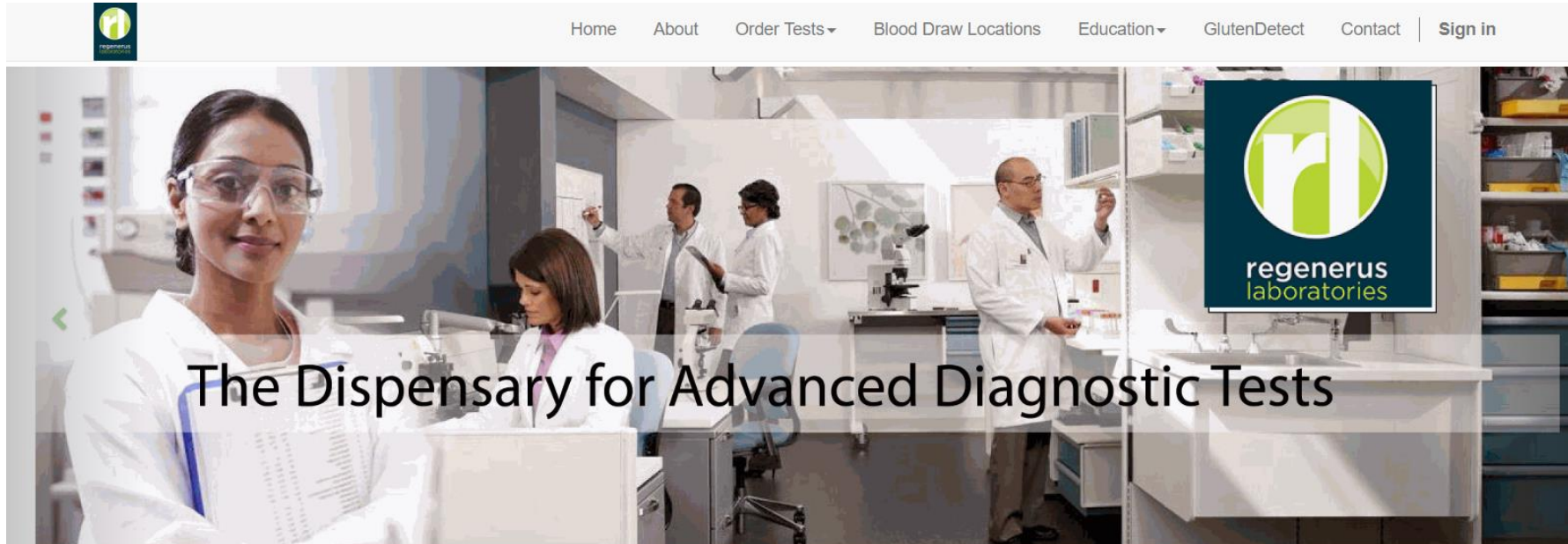
Also screens for antibodies to the opioids produced from wheat called Gluteomorphins and Prodynorphins.

TEST	RESULT			
	IN RANGE (Normal)	EQUIVOCAL*	OUT OF RANGE	REFERENCE (ELISA Index)
Array 3 – Wheat/Gluten Proteome Reactivity & Autoimmunity				
Wheat IgG	0.59			0.3-1.5
Wheat IgA		0.95		0.1-1.2
Wheat Germ Agglutinin IgG	0.70			0.4-1.3
Wheat Germ Agglutinin IgA		0.90		0.2-1.1
Native & Deamidated Gliadin 33 IgG	0.21			0.2-1.2
Native & Deamidated Gliadin 33 IgA		1.07		0.1-1.1
Alpha Gliadin 17-mer IgG	0.63			0.1-1.5
Alpha Gliadin 17-mer IgA			1.35	0.1-1.1
Gamma Gliadin 15-mer IgG	0.97			0.5-1.5
Gamma Gliadin 15-mer IgA	0.46			0.1-1.0
Omega Gliadin 17-mer IgG	0.43			0.3-1.2
Omega Gliadin 17-mer IgA	0.90			0.1-1.2
Glutenin 21-mer IgG	0.76			0.1-1.5
Glutenin 21-mer IgA		1.23		0.1-1.3
Gluteomorphin + Prodynorphin IgG	0.56			0.3-1.2
Gluteomorphin + Prodynorphin IgA		1.12		0.1-1.2
Gliadin-Transglutaminase Complex IgG			1.54	0.3-1.4
Gliadin-Transglutaminase Complex IgA	1.04			0.2-1.5
Transglutaminase-2 IgG	0.75			0.3-1.6
Transglutaminase-2 IgA	1.19			0.1-1.6
Transglutaminase-3 IgG	0.65			0.2-1.6
Transglutaminase-3 IgA			1.75	0.1-1.5
Transglutaminase-6 IgG	1.09			0.2-1.5
Transglutaminase-6 IgA		1.34		0.1-1.5

* Founded by Dr. Vojdani; gluten needs to be consumed for gluten sensitivity tests to be accurate

Regenerus Laboratories

<http://regeneruslabs.com/page/homepage>



Regenerus Laboratories
Aero 14, Kings Mill Lane
Redhill
Surrey
RH15JY

02037500870
info@regeneruslabs.com

Welcome to **Regenerus Laboratories**, the Dispensary for Advanced Diagnostics Tests. We provide more than 250 different tests to the doorstep of health professionals and their patients across the UK and throughout Europe.

Breath tests

- **Small intestinal bacterial overgrowth (SIBO)**
- **Lactose**
- **Fructose**

Breath test: SIBO

Biolab Medical Unit

9 Weymouth Street, London W1W 6DB, England

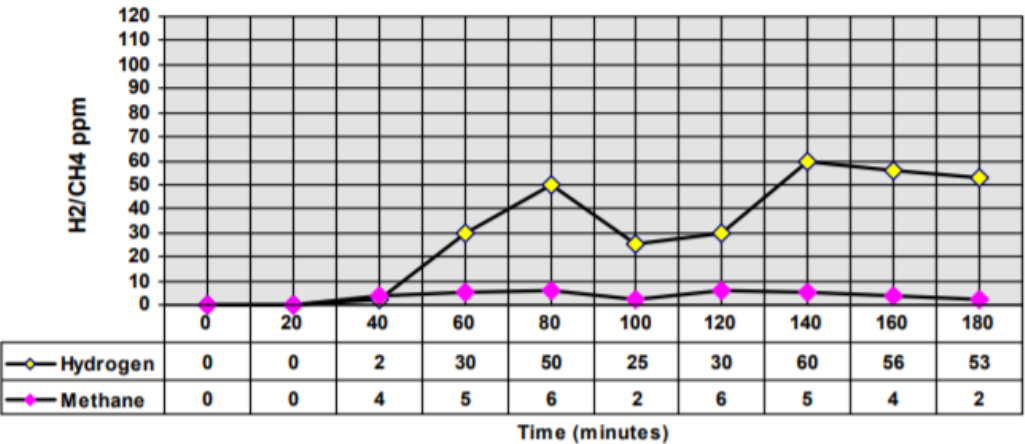
Telephone: (+44) 020 7636-5959/5905 Fax: (+44) 020 7580-3910 E-mail: info@biolab.co.uk Internet: www.biolab.co.uk

Hydrogen Breath Test using Lactulose

Reference: **NAOD/ACFE/A12** Date of birth: **01/01/1950**
Patient: **Test Patient** Sex: **Male**
Doctor: **Dr.....** Sample date: **03/01/2012**

Protocol: 10gm of lactulose diluted in 200ml of water.
Method: Hydrogen and methane values measured every 20 minutes for 180 minutes

Basal levels: Hydrogen = 0 ppm Methane = 0 ppm



The increase of breath hydrogen levels to greater than 20ppm above baseline in the first 90 minutes of the study is suggestive of small intestinal bacterial overgrowth. (*Reference 2017 North American consensus: Ali Rezaie Et Al. Hydrogen and methane based breath testing in gastrointestinal disorders: The North American consensus. American journal of gastroenterology 2017; 112:775-784*)

Comments:
Results suggest small intestinal bacterial overgrowth (SIBO)

Breath tests: Lactose/fructose

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Hydrogen Breath Test using Lactose

Reference: **NKJO/SDAV/A12**

Patient: **Test Patient**

Doctor: **Dr.....**

Date of birth **03-May-78**

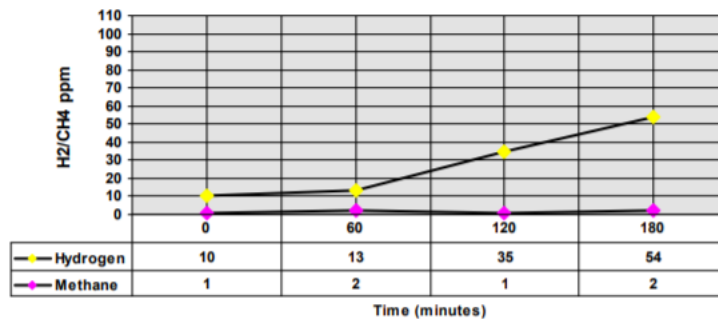
Sex: **Female**

Sample date: **03-Jan-12**

Protocol: 50gm of lactose diluted in 200ml of water.

Method: Hydrogen and methane values measured every 60 minutes for 180 minutes.

Basal levels: Hydrogen = 10 ppm Methane = 1 ppm



Comments:

Results suggest lactose intolerance

Biolab Medical Unit

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Telephone: (+44) 020 7636-5959/5905 Fax: (+44) 020 7580-3910 E-mail: info@biolab.co.uk Internet: www.biolab.co.uk

Hydrogen Breath Test using Fructose

Reference: **NKJO/SDAV/A12**

Patient: **Test Patient**

Doctor: **Dr.....**

Date of birth **03-May-78**

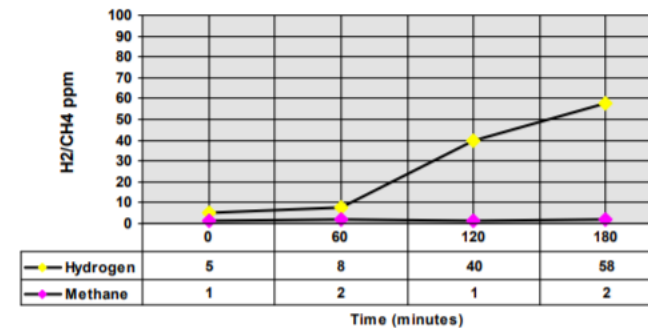
Sex: **Female**

Sample date: **03-Jan-12**

Protocol: 35g of fructose diluted in 200ml of water.

Method: Hydrogen and methane values measured every 60 minutes for 180 minutes

Basal levels: Hydrogen = 5 ppm Methane = 1 ppm



Comments:

Results suggest fructose intolerance

Biolab (1/2)



BIOLAB MEDICAL UNIT
NUTRITIONAL AND ENVIRONMENTAL MEDICINE
LONDON ENGLAND
www.biolab.co.uk

[International Services](#) ▶ [Font Size](#) 

8:06 am UTC Tuesday May 15, 2018 (London)

[Home](#) [About Biolab](#) [Clinicians](#) [Patients](#) [Tests](#) [Test Forms](#) [Appointments](#) [Publications/Media](#) [Contact Us](#)

Looking at Health from
the Molecular to the Global

[Clinicians](#) [Patients](#)

To arrange an appointment please telephone:
(+44) 020 7636 5959/5905

- Trace and Toxic Elements
- Water Soluble Vitamins
- Fat Soluble Vitamins
- Essential Fatty Acids
- Amino Acids
- Peptides
- Antioxidant Profile
- Nutritional Status
- Osteoporosis Profile
- Gut Fermentation
- Gut Permeability
- Allergy Tests
- Health Risk Profile
- Iodine and many more...

[\[click here to view full list of tests\]](#)



QUICK LINKS

- Turnaround Times & Notifications
- Frequently Asked Questions
- Media and Education
- Appointments
- A-Z of Tests
- How to Find Us
- Join Our Mailing List
- Laboratory Guide
- Pathology Request Form
- Hair Mineral Request Form
- Supplement Cautions

replacement blood toxic metals screening service (including cobalt and chromium)

FEATURES

- [Order test kits here](#)
- [Clinicians can register here to refer patients for tests](#)
- [Join our Mailing List](#) We encourage you to register on our mailing list in order to receive copies of Biolab newsletters and CPD approved workshop announcements.

NEWS

- [Mobile phlebotomy service](#) [PDF] A list of phlebotomists around the UK (and in Ireland) who can collect blood samples for Biolab tests can be found here.
- [Mycotoxins Profile](#) [PDF] Mycotoxins are some of the most prevalent toxins in the environment. They are metabolites produced by fungi like mould, which can infest...[\[more\]](#)
- [Metal on Metal hip replacements](#) Biolab offers

Biolab Medical Unit
The Stone House,
9 Weymouth Street,
London W1W 6DB, UK
Telephone: (+44) 020
7636 5959/5905

Email: reception@biolab.co.uk

mark@biolab.co.uk

Have a list of phlebotomists
around the country, too –
useful!

Biolab (2/2): Huge range of nutritional and environmental tests



• A-Z Listing of Biolab Tests

[Acid phosphatase - prostatic](#)
[ADHD \(and similar\) Profile](#)
[ADHD \(and similar\) Profile - additional tests](#)
[Adrenal Profile & Metabolites \(dried urine DUTCH\)](#)
[Adrenal Profile \(24hr urine\)](#)
[Adrenal Stress Profile \(Saliva\)](#)
[Albumin](#)
[Alcohol Excess Profile](#)
[Alkaline phosphatase - bone](#)
[Aluminium \(Al\) - blood](#)
[Aluminium \(Al\) - plasma](#)
[Aluminium \(Al\) - urine](#)
[Amino Acid Profile \(6 or 24hr urine\)](#)
[Anorexia Nervosa Profile](#)
[Anti-DNAse B](#)
[Antimony \(Sb\) - blood](#)
[Antimony \(Sb\) - urine](#)
[Antioxidant activity \(total & nutritional\)](#)
[Antioxidant Profile](#)
[Arsenic \(As\) - blood](#)
[Arsenic \(As\) - urine](#)
[Arthroplasty Blood Toxic Metal Profile](#)
[B vitamins \(functional blood profile\)](#)
[Bariatric Surgery \(post\) - annual screening](#)
[Barium \(Ba\) - blood](#)
[Barium \(Ba\) - urine](#)
[Beryllium \(Be\) - blood](#)
[Beryllium \(Be\) - urine](#)
[Beta-cryptoxanthin](#)
[Bile Acids Total](#)
[Biotin](#)
[Breath Hydrogen & methane \(small intestinal bacterial overgrowth - SIBO\)](#)
[Breath hydrogen & methane - Fructose intolerance](#)
[Breath hydrogen & methane - lactose intolerance](#)
[Burning Mouth/Mouth Ulceration Profile](#)
[Burning Mouth/Mouth Ulceration Profile - additional tests](#)
[C-Reactive Protein \(CRP\)](#)
[C.Difficile DNA - Stool](#)
[Cadmium \(Cd\) - urine](#)
[Cadmium \(Cd\) - blood](#)
[Caeruloplasmin](#)
[Calcium \(Ca\) - serum](#)
[Calcium \(Ca\) - urine](#)

[Candida Antibodies\(IgG, IgM & IgA\)](#)
[Cardiac Arrhythmias Profile](#)
[Cardiac Arrhythmias Profile - additional tests](#)
[Cardiac Failure Profile](#)
[Cardiac Failure Profile - additional tests](#)
[Carotenes \(alpha and beta\)](#)
[CFS/ME profile](#)
[CFS/ME profile - additional tests](#)
[Chromium \(Cr\) - blood](#)
[Chromium \(Cr\) - plasma](#)
[Chromium \(Cr\) - urine](#)
[Clostridium culture - stool](#)
[Cobalt \(Co\) - Blood](#)
[Cobalt \(Co\) - urine](#)
[Coeliac-Gluten Sensitivity Screen\(GSA\)](#)
[Coenzyme Q10](#)
[Comprehensive Parasitology \(2 stool specimens\)](#)
[Comprehensive Stool Analysis \(without parasitology\)](#)
[Comprehensive Stool Analysis with Parasitology \(2 samples\)](#)
[Comprehensive Stool Analysis with Parasitology \(3 samples\)](#)
[Copper \(Cu\) - plasma](#)
[Copper \(Cu\) - urine](#)
[Copper Response Test](#)
[Coronary Heart Disease Profile](#)
[Coronary heart disease profile - additional tests](#)
[Creatinine - urine](#)
[D-Lactate](#)
[D-Xylose Absorption](#)
[Dementia profile](#)
[Dementia Profile - additional tests](#)
[DHEA-Sulphate](#)
[Diabetes profile](#)
[Diabetes profile - additional tests](#)
[Diamine Oxidase Activity \(histamine intolerance\)](#)
[DNA Methylation Panel](#)
[DNA Oxidative Damage \(8-hydroxy-2'-deoxyguanosine\)](#)
[Drug/nutrient interactions \(severe\) profile - additional tests](#)
[Drug/nutrient interactions profile \(severe\)](#)
[Eye conditions \(degenerative\) profile](#)
[Eye conditions \(degenerative\) profile - additional tests](#)
[Fat soluble vitamin Profile](#)
[Fatty Acids - Erythrocytes \(qualitative results only - see below\)](#)
[Ferritin](#)
[Fibromyalgia profile](#)
[Fluoride - Tap water](#)
[Fluoride - urine](#)
[Folate \(red cell\)](#)

[Food allergy panel \(IgE\)](#)
[Food Sensitivity & Candida IgG Profile \(95 foods\)](#)
[Free T3 - Thyroid](#)
[Free T4- Thyroid](#)
[Gamma Glutamyl Transferase](#)
[Glucose - Plasma](#)
[Glucose in plasma and GTTs](#)
[Glucose Tolerance test \(2.5 hours\)](#)
[Glucose Tolerance Test \(5 hours\)](#)
[Glutathione - red cells](#)
[Glutathione -S- transferase -serum](#)
[Glutathione Peroxidase](#)
[Glutathione reductase \(RBC\)](#)
[Glyphosate](#)
[Growth and Poor Appetite Profile](#)
[Growth and Poor Appetite Profile - additional tests](#)
[Gut Permeability profile](#)
[Haematology & Biochemistry](#)
[Haematology + biochemistry + lipids](#)
[Haematology Profile+ESR](#)
[Haemoglobin](#)
[Hair mineral & toxic elements](#)
[HbA1c- Glycosylated Haemoglobin](#)
[Health Risk Profile](#)
[Health Risk Profile - Extended](#)
[Helicobacter Pylori Breath Test](#)
[Hepatic Detox Profile](#)
[Histamine \(plasma\)](#)
[Histamine \(urine\)](#)
[Homocysteine - plasma](#)
[Hormone Profile - Complete \(dried urine DUTCH\)](#)
[Hormone Profile - sex hormones \(24hr urine\)](#)
[Hormones - Comprehensive \(includes sex & adrenal\) \(24hr urine\)](#)
[Hormones - Comprehensive PLUS \(includes thyroid\) \(24hr urine\)](#)
[Hormones - Comprehensive PLUS with HGH\(24hr urine\)](#)
[Hormones and Thyroid Profile\(serum\)](#)
[IgE \(total\)](#)
[Immunoglobulins \(IgG, IgA & IgM\)](#)
[Indicans](#)
[Infections \(recurrent or severe\) Profile](#)
[Infections \(recurrent or severe\) Profile - additional tests](#)
[Infertility profile](#)
[Infertility profile - additional tests](#)
[Inflammatory Arthritis Profile](#)
[Inhalant allergy panel \(IgE\)](#)
[Iodine - urine](#)
[Iodine:creatinine ratio \(urine\)](#)

etc. ...

Histamine intolerance

- DAO
- MCAS/MCAD
- Gene testing: HDC/HNMT, etc.

Insufficient DAO = histamine intolerance

SPECIAL PATHOLOGY

Diamine Oxidase Activity

★ 9.2

U/ml

See below

< 3 : Histamine intolerance indicated

3 - 10 : Histamine intolerance probable

> 10 : Histamine intolerance improbable

Result from Referral Laboratory ID [900].

<https://tdlpathology.com/>

“Two major enzymes responsible for degradation of histamine: diamine oxidase (DAO) which regulates histamine extra-cellularly and Histamine-N-methyltransferase (HNMT) which regulates histamine intracellularly. When one or both of these enzymes are defective, histamine accumulates in the body”

Maintz and Novak et al conclude that there appears to be a complex interaction between environmental factors, ([such as pathogens](#), [medication](#) or alcohol), and/or other associated genetic defects (such as HNMT).

[Allergy](#). 2011 Jul;66(7):893-902. doi: 10.1111/j.1398-9995.2011.02548.x. Epub 2011 Apr 13.

Association of single nucleotide polymorphisms in the diamine oxidase gene with diamine oxidase serum activities.

[Maintz L](#)¹, [Yu CF](#), [Rodríguez E](#), [Baurecht H](#), [Bieber T](#), [Illig T](#), [Weidinger S](#), [Novak N](#).

<https://www.aerzteblatt.de/pdf.asp?id=58066>

Testing for MCAS/MCAD*

Mast cells inappropriately and excessively releasing chemical mediators affecting the surrounding tissue: common symptoms: pruritus, flushing, nausea, vomiting, diarrhea, abdominal pain ...

Tryptase level – transient rise in serum tryptase

Histamine

Random and 24-hr urinary N-methyl histamine,
or histamine metabolites
prostaglandin D2 &
prostaglandin F2-alpha.

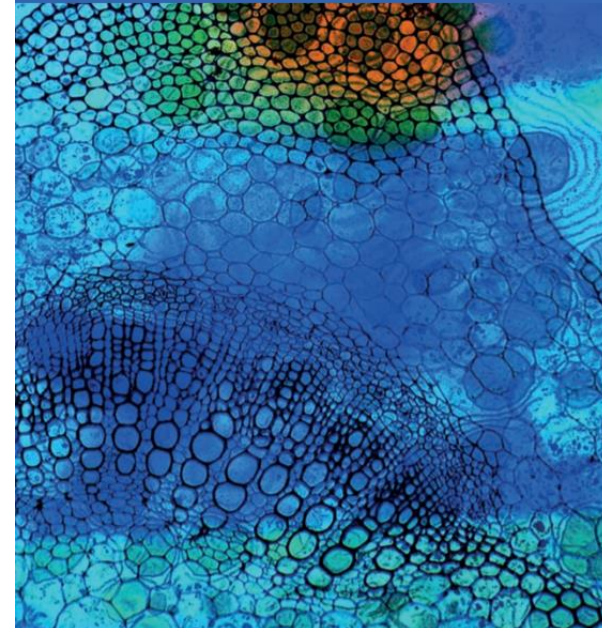
Serum chromogranin-A

Heparin level



Laboratory Guide 2018

Valid from 1st January 2018

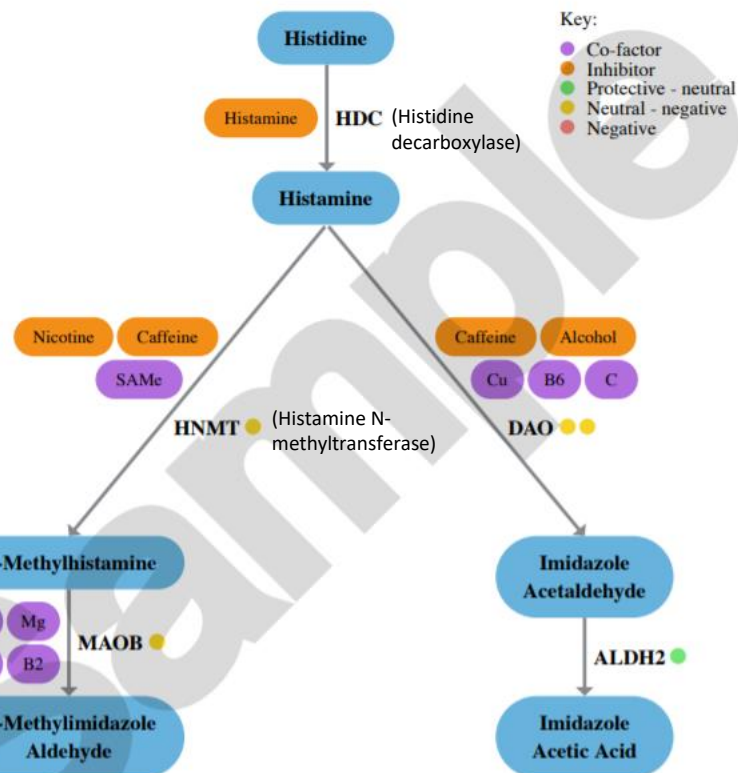


* Dr. Lawrence Afrin, author of “Never Bet Against Occam”

Lifecode gx for histamine intolerance genetic testing

Histamine Intolerance

Histamine Degradation Pathways



Lifecode G^X
— Professional Genotype Analysis —

HOME PRODUCTS EVENTS ABOUT RESOURCES

Histamine Intolerance + DNA Test

£249.00

Histamine intolerance is a toxic response by the body resulting from an imbalance between accumulated histamine and the capacity to break it down.

Histamine toxicity is associated with numerous symptoms that mimic an allergic reaction such as skin irritation, gastro-intestinal upset, respiratory distress, headaches, insomnia and anxiety.

Quantity:

1

ADD TO CART

Share

This product includes a DNA test kit. You may wish to include add-on report products in the same order.

We report the genes involved in the two main histamine degradation pathways - Diamine Oxidase (DAO) and ALDH2 in the digestive tract, and Histamine N-Methyltransferase (HNMT) and MAOB in the central nervous system and lungs.

<https://www.lifecodegx.com/products/histamine-intolerance>

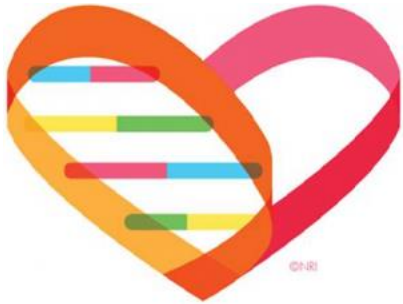
Multiple options for genetic testing now available



<https://mthfrsupport.com/sterlings-app/>



genetic^{genie}



HOLISTIC HEALTH
INTERNATIONAL



Livewello



Liver Detox Phase I/II (etc.)
all highly relevant to
gut health

Liver Detox - Phase II (Figure 1)			
SNP Name	Risk Allele	Your Alleles	Your Results
ABP1/DAO C1933G	G	CC	-/-
ABP1/DAO C47T	T	TT	+/+
ACAT1 G22670A	A	GG	-/-
ACE G2328A	G	GG	+/+
ADA A534G	G	TT	-/-
ADA C10783T	A	GG	-/-
ADA G22021A	C	CT	+/-
ADA G22A	T	CC	-/-
ADD1 G460W	T	TT	+/+
ADH1B A14973G	C	TT	-/-
ADH1B A178T	A	TT	-/-
ADH1B A19107G	C	TT	-/-
ADH1B A396C	A	GG	-/-
ADH1B A5998G	C	CT	+/-
ADH1B A7571G	C	TT	-/-
ADH1B A8575G	C	TT	-/-
ADH1B C8282A	T	GG	-/-
ADH1B C9160T	A	GG	-/-
ADK G509567T	T	GT	+/-
AGT M235T/C4072T	G	AG	+/-
AHCY-01 G14905A	C	CT	+/-
AMT T5998G	C	CC	+/+
APOC3 3u386	G	CC	-/-
APOC3 G34G	T	CT	+/-
BHMT A7961G	G	AG	+/-
BHMT R239Q	A	GG	-/-
BHMT-02 C13813T	T	CC	-/-
BHMT-08 C6457T	T	CT	+/-
CAT A12175G	G	AG	+/-
CAT C14185T	T	CC	-/-
CAT C21068T	T	CC	-/-
CAT T5070C	C	CC	+/+
COMT/TXNRD2 A4251G	C	TT	-/-
COMT/TXNRD2 C4622T	T	CC	-/-
COMT/TXNRD2 T4239C	G	AA	-/-
DAO A14747C	C	AC	+/-
DAO A24464G	G	AA	-/-
DAO G8864A	A	GG	-/-
DAO/ABP1 C995T	T	CC	-/-
DHFR A16352G	C	CC	+/+
DHFR A20965G	C	CC	+/+
DHFR C19483A	T	TT	+/+
DHFR/MSH T-473A	A	GG	-/-
DISC1 C14853T	C	CT	+/-

Organic Acid Tests

- Genova
- Great Plains Laboratory (GPL)

Genova's Organic Acids Test (MAP, also incorporated into NutrEval)

All biomarkers reported in mmol/mol creatinine unless otherwise noted. *Metabolic Analysis Markers (Urine)*

Malabsorption and Dysbiosis Markers

Malabsorption Markers	Reference Range
Indoleacetic Acid (IAA)	0.7 <= 4.2
Phenylacetic Acid (PAA)	0.10 <= 0.12

Bacterial Dysbiosis Markers

Dihydroxyphenylpropionic Acid (DHPPA)	2.9 <= 5.3
3-Hydroxyphenylacetic Acid	14.1 <= 8.1
4-Hydroxyphenylacetic Acid	16 <= 29
Benzoic Acid	0.06 <= 0.05
Hippuric Acid	170 <= 603

Yeast / Fungal Dysbiosis Markers

Arabinose	36 <= 96
Citramalic Acid	3.0 <= 5.8
Tartaric Acid	<dl <= 15

Cellular Energy & Mitochondrial Metabolites

Carbohydrate Metabolism	Reference Range
Lactic Acid	2.8 1.9-19.8
Pyruvic Acid	14 7-32
β -OH-Butyric Acid (BHBA)	3.3 <= 2.8












Energy Metabolism

Citric Acid	254 40-520
Cis-Aconitic Acid	14 10-36
Isocitric Acid	45 22-65
α -Ketoglutaric Acid (AKG)	28 4-52
Succinic Acid	2.0 0.4-4.6

Neurotransmitter Metabolites

Reference Range		
Vanilmandelic Acid	1.5	0.4-3.6
Homovanillic Acid	2.9	1.2-5.3
5-OH-indoleacetic Acid	10.3	3.8-12.1
3-Methyl-4-OH-phenylglycol	0.08	0.02-0.22
Kynurenic Acid		11.1 <= 7.1
Quinolinic Acid	3.5	<= 9.1
Kynurenic / Quinolinic Ratio	3.17	>= 0.44

Vitamin Markers

Reference Range			
α -Ketoadipic Acid			≤ 1.7
α -Ketoisovaleric Acid			≤ 0.97
α -Ketoisocaproic Acid			≤ 0.89
α -Keto- β -Methylvaleric Acid			≤ 2.1
Formiminoglutamic Acid (FIGlu)			≤ 1.5
Glutaric Acid			≤ 0.51
Isovalerylglycine			≤ 3.7
Methylmalonic Acid			≤ 1.9
Xanthurenic Acid			≤ 0.96
3-Hydroxypropionic Acid			5-22
3-Hydroxyisovaleric Acid			≤ 29

Toxin & Detoxification Markers

Reference Range	
n-Ketohexanoic Acid	0.00 - 0.10

Great Plains (GPL) Organic Acids Test



The Great Plains Laboratory, Inc.

William Shaw, Ph.D., Director

11813 West 77th Street, Lenexa, KS 66214

(913) 341-8949

Fax (913) 341-6207

Requisition #:

Physician:

Patient Name:

Date of Collection:

4/21/2015

Patient Age: 52

Time of Collection:

04:30 AM

Patient Sex: F

Print Date:

04/29/2015

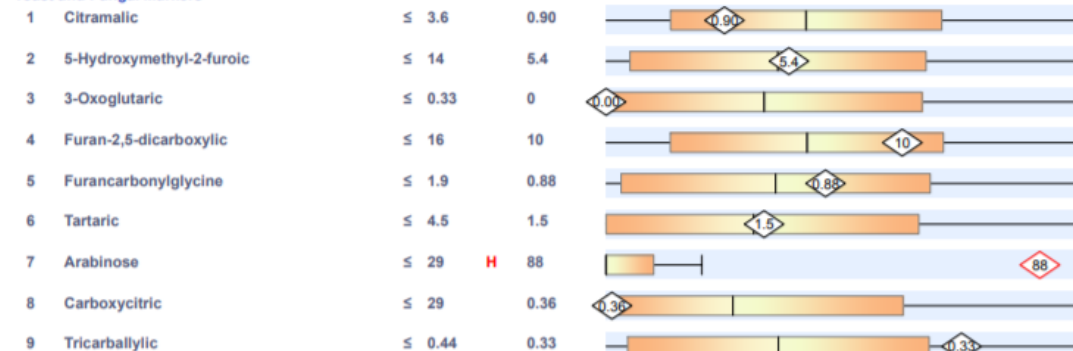


Organic Acids Test - Nutritional and Metabolic Profile

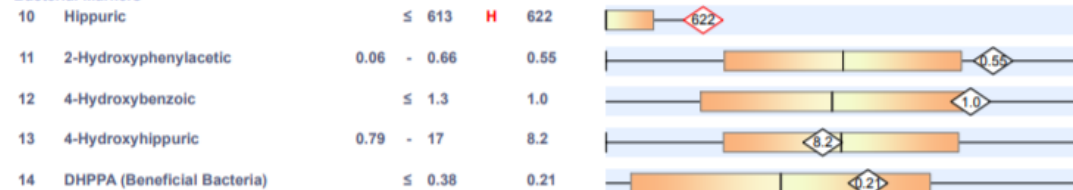
Metabolic Markers in Urine	Reference Range (mmol/mol creatinine)	Patient Value	Reference Population - Females Age 13 and Over
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Intestinal Microbial Overgrowth

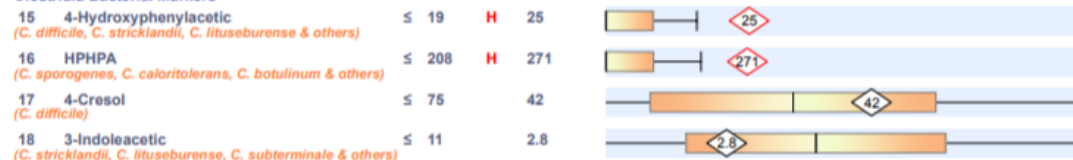
Yeast and Fungal Markers



Bacterial Markers

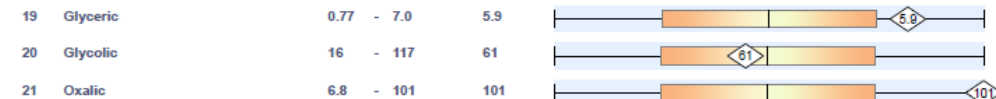


Clostridia Bacterial Markers

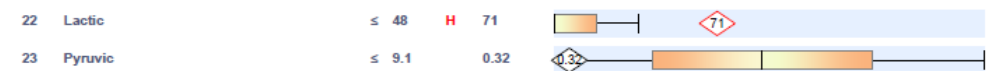


Metabolic Markers in Urine	Reference Range (mmol/mol creatinine)	Patient Value	Reference Population - Females Age 13 and Over
----------------------------	--	------------------	--

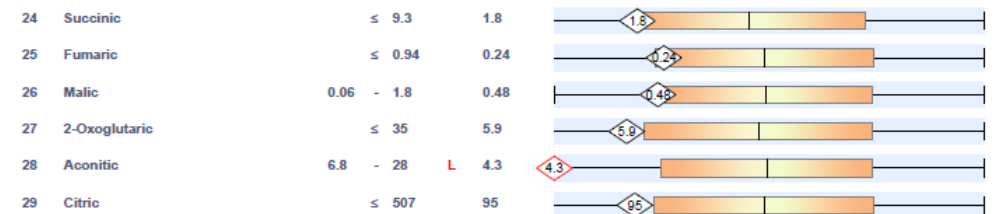
Oxalate Metabolites



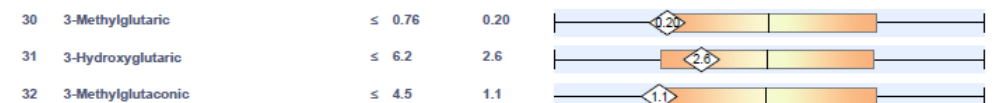
Glycolytic Cycle Metabolites



Mitochondrial Markers - Krebs Cycle Metabolites

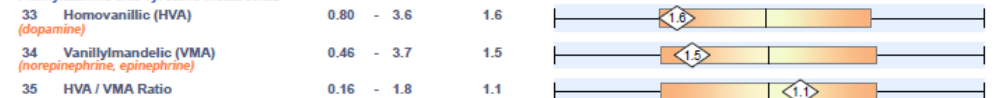


Mitochondrial Markers - Amino Acid Metabolites

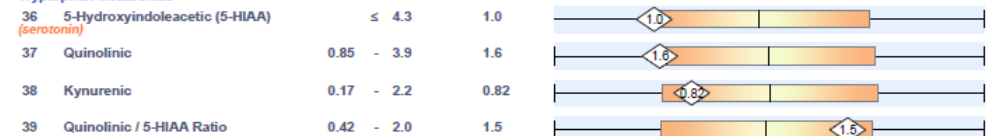


Neurotransmitter Metabolites

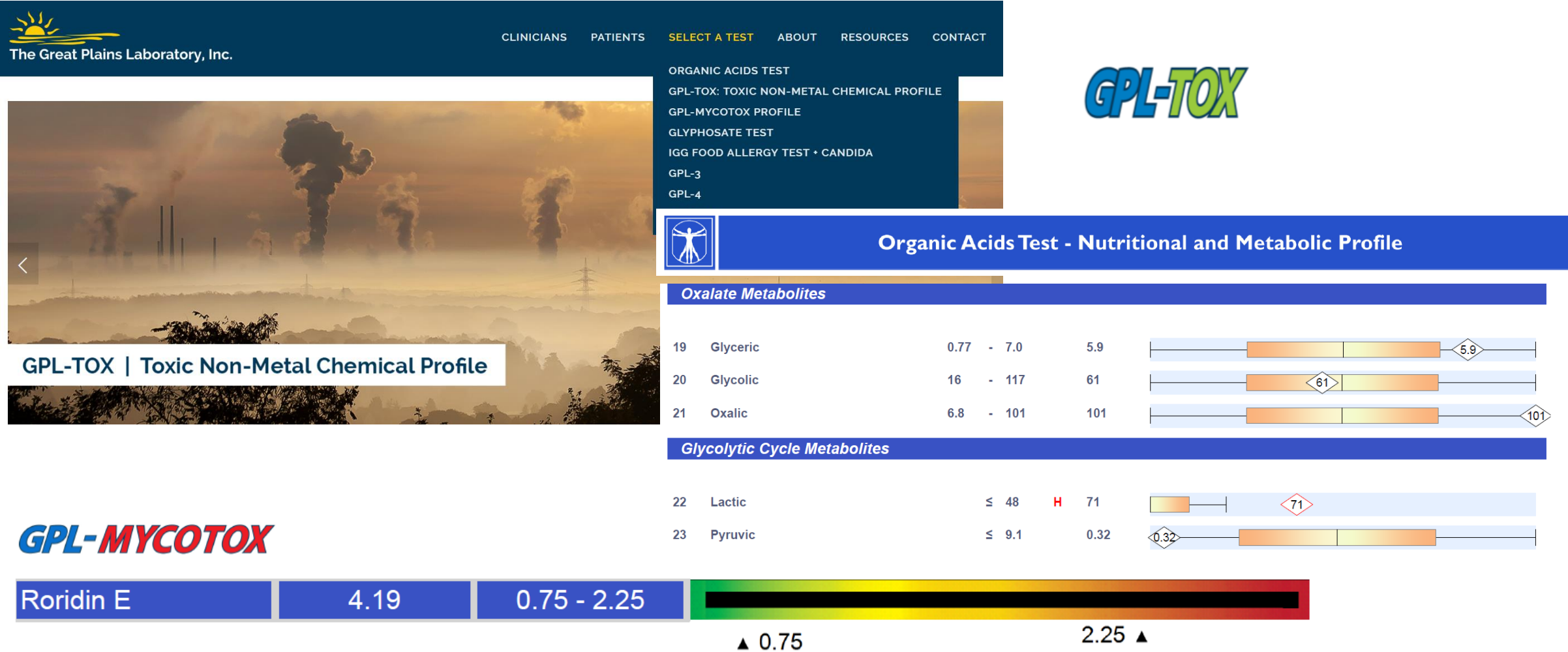
Phenylalanine and Tyrosine Metabolites



Tryptophan Metabolites



Biolab also key hub for Great Plains Laboratories (GPL)



Bacterial/viral infections

- Enterobacteria
- Enteroviruses

Enterobacteria/enteroviruses

Enteroviruses:

Enteroviruses belong to the family of picorna viruses. They consist of 23 subspecies of Coxsackie-A-viruses, 6 Coxsackie-B-viruses and 31 Echovirus and other enteroviruses. Humans are the only virus reservoir. Enteroviruses particularly cause feverish diseases of the respiratory organs and the gastrointestinal tract, also the Norovirus

Coxsackie IgG-/IgA-antibodies

4	Coxsackie-Virus IgG A7 (IFT)	+	1:10000	< 1:100	[..... *>
4	Coxsackie-Virus IgG B1 (IFT)	+	1:10000	< 1:100	[..... *>
4	Coxsackie-Virus IgA A7 (IFT)	+	1:100	< 1:10	[..... *>
4	Coxsackie-Virus IgA B1 (IFT)	+	1:100	< 1:10	[..... *>

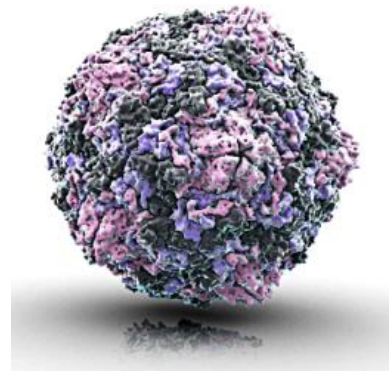
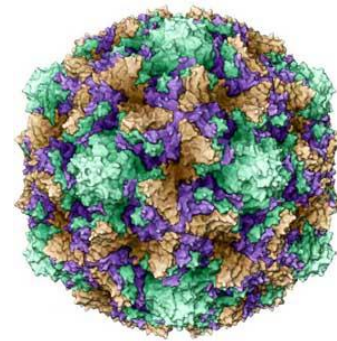
The specific Coxsackie-Virus Type A7/B1-IgG-/IgA-antibodies indicate current humoral immune response against Coxsackie-Virus Type A7 and Coxsackie-Virus Type B1. The test system is highly specific for Coxsackie Virus antibodies. Other Enterovirus antibodies (f.e. Echovirus antibodies) are not detectable.

[BMJ](#). 1991 Mar 23;302(6778):692-6.

Enteroviral RNA sequences detected by polymerase chain reaction in muscle of patients with postviral fatigue syndrome.

Gow JW¹, Behan WM, Clements GB, Woodall C, Riding M, Behan PO.

← Can later develop into
ME/CFS-type conditions



Yersinia enterocolitica

ArminLabs GmbH

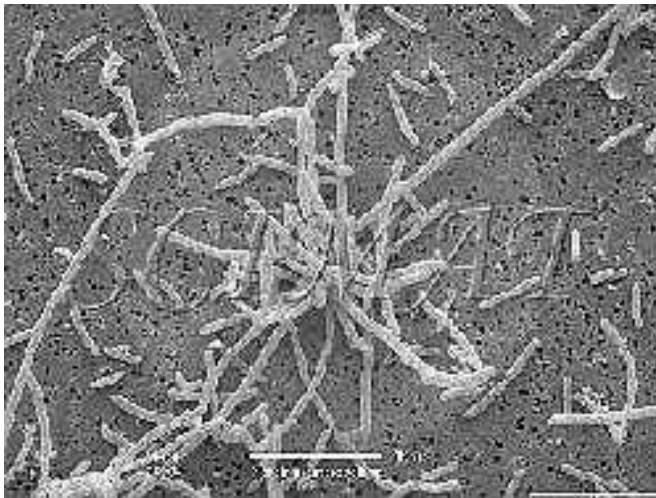
Page: 4 of 5

ArminLabs GmbH - Zirbelstr.58 3rd floor, 86154 Augsburg, Germany

Patient: M
Date of birth: Date of Reception: Date of Report: Barcode-ID: Physician:
09/11/2017 09/13/2017

Yersinia EliSpot
Yersinia-EliSpot + 34 SI

>3 = positive
2-3 = weak positive
<2 = negative



Yersinia enterocolitica is an enteropathic bacterium. It penetrates the intestinal wall and the mesenteric lymph nodes. Several ectoparasites including ticks have been found to be infected with Yersinia – the most common vectors are rodents and fleas.

Testing for bacterial and viral infections (also tick-borne) at Arminlabs via



<https://aonm.org/>

03331 210 305
info@aonm.org

Building forensics - <http://buildingforensics.co.uk/>

BUILDING FORENSICS



Home

Technical and health

Consultancy & Costs

Testimonials

Our Accreditations

FAQ's

Contact Us



We follow Shoemaker
methods of investigation
for water damaged
buildings and mould &
Biotoxins

CEO
Jeff
Charlton



Winner of CIR
Recovery of the
Year 2001



Winner of CIR
Recovery of the
year-1999



Honorary Fellow
of the BDMA



Winner of CIR
Disaster Recovery
of the Year Lead
Technician



Testimonials



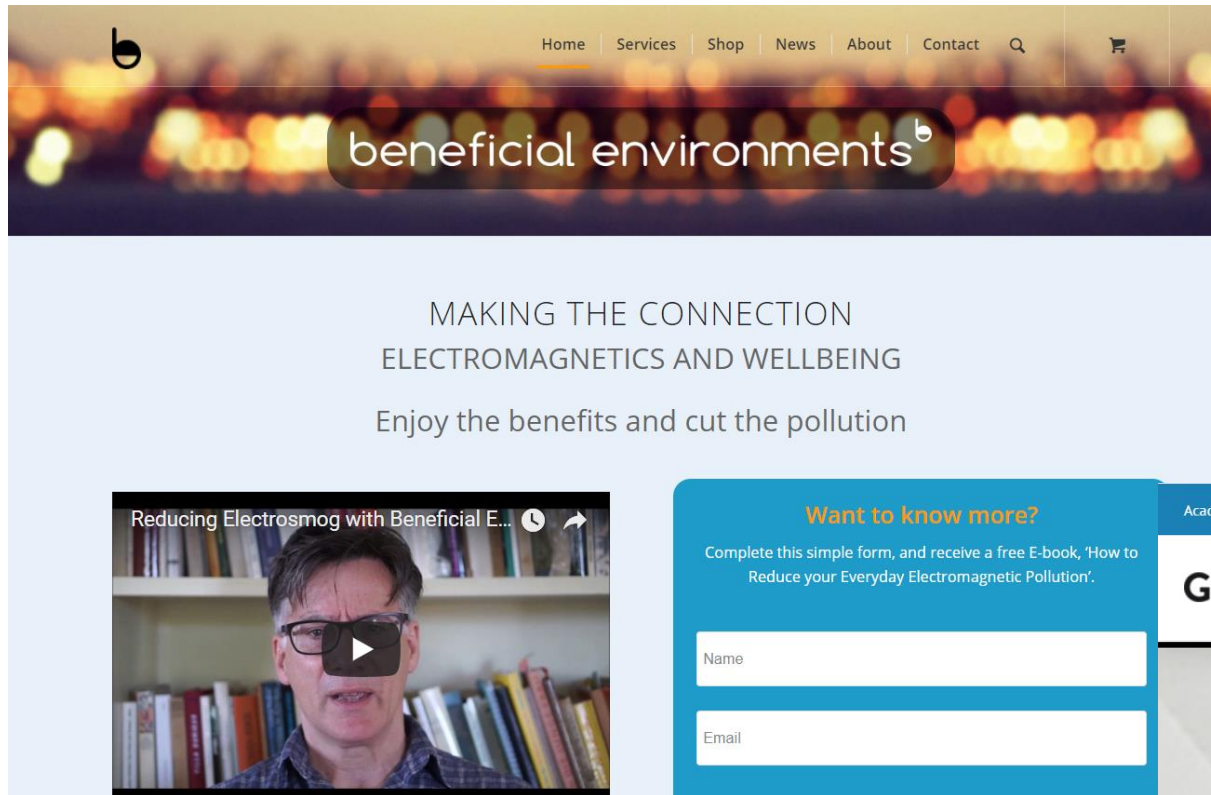
Free Help



Our Clients



Geobiological investigation/EMF protection



The screenshot shows the homepage of 'beneficial environments'. The header features a navigation bar with links: Home, Services, Shop, News, About, Contact, and a search icon. The main content area has a light blue background with the text 'MAKING THE CONNECTION ELECTROMAGNETICS AND WELLBEING' and 'Enjoy the benefits and cut the pollution'. Below this, there is a video player on the left showing a man speaking, and a blue box on the right with the heading 'Want to know more?' and a form to request a free E-book.

beneficial environments^b

MAKING THE CONNECTION
ELECTROMAGNETICS AND WELLBEING

Enjoy the benefits and cut the pollution

Reducing Electrosmog with Beneficial E...

Want to know more?

Complete this simple form, and receive a free E-book, 'How to Reduce your Everyday Electromagnetic Pollution'.

Name

Email

<https://beneficialenvironments.co.uk/>

<https://en.geovital.com/>



The screenshot shows the homepage of 'GEOVITAL'. The header features a navigation bar with links: News & Articles, Academy & Events, Services & Consultants, Products, Info, Network, Careers, and a search icon. The main content area has a dark background with a large image of a hand writing on a document. The text 'GEOBIOLOGICAL INVESTIGATION' is prominently displayed, followed by a description of the service and a green button labeled 'Consultation Info'.

Academy for Radiation Protection and Environmental Medicine | support@geovital.com

GEOVITAL

News & Articles Academy & Events Services & Consultants Products Info Network Careers

GEOBIOLOGICAL INVESTIGATION

An assessment is made of environmental influences which could affect your health. This forms the basis for consultation about appropriate protection against radiation.

Consultation Info

Supplement suppliers



The Natural Dispensary <https://naturaldispensary.co.uk/>



Nutritional Supplement Mail Order for Practitioners and their Clients. All Under One Roof...



Browse by Brands

- A** Click for A brands +
A Vogel (BioForce)
Acadian Maple
- B** Click for B brands +
Bach Flower Remedies
Balance Activ
- C** Click for C brands +
Canabidol
Cariad Coffee
- D** Click for D brands +
Daily Cultures
Dead Sea Spa Manik

it_Rok-807-1.html

- 1** [Register](#) with The Natural Dispensary or [Login](#)
- 2** [Search](#) for your prescribed products, or [Browse by Brand](#)
- 3** Purchase securely online at the [Checkout](#)

Brands Stocked



Products in the News



[Login](#) [Register](#)

Free Delivery

All UK orders over £25 are delivered free of charge. There is a £2 post and packaging fee on UK orders under £25.

We Accept



~ 450 brands

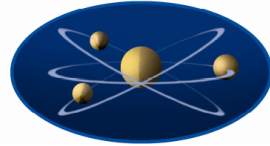
> 11,000 products

Discount for the doctor/therapist: 33%

For your patients: Whatever discount you choose, up to 25%

Supplements: examples

BioCare[®]



<https://www.nutri-link.co.uk/>



<https://www.solgar.co.uk/>

Sales
at Dr Myhill

<https://www.salesatdrmyhill.co.uk>



<https://www.nutriadvanced.co.uk/>

viridian
The leading brand of ethical vitamins

<http://www.viridian-nutrition.com/>

Nutri[∞]Link Ltd
Linking Science & Nutrition

<https://www.nutri-link.co.uk/>



BODYBIO

N₇FACTOR
The Science of "Nutrient Transport"



BIO  TECH
PHARMACAL, INC.
ENERGY=HEALTH

Doctor Wilson's
Original Formulations

Amrita Nutrition (1/2) - <https://www.amritanutrition.co.uk/>

We were previously Functional Nutrition Supplements. We've re-branded and launched our new site, we hope you enjoy using it! [X](#)


**amrita
nutrition**


Call +44 114 235 7845 9am - 5pm GMT Mon - Fri


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 High quality

 Practitioner recommended

 Fast delivery from the UK

Shop by:

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[Brand](#)

[Condition](#)

Search for products here...




[Login](#) [Basket \(0\)](#)

**Welcome to Amrita Nutrition. We
supply superior nutrition
supplements for optimal health &
wellbeing.**

USE OUR ADVANCED PRODUCT SEARCH



Amrita Nutrition (2/2)





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 High quality

 Practitioner recommended


 Fast delivery from the UK

Shop by:

Category ▾

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Condition ▾

Search for products here... 

Login

Basket (0)

Adrenal		Epsom Salts		Kidney and Urinary Support	+	Protein Powders, Bone Broths and Functional Foods	
Antimicrobial	+	Essential Fatty Acids		Kinesiology Testing Kit		Researched Nutritionals	+
Bone Health		Eye Support		Liver and Biliary Tree Support	+	Search By Condition	+
Books		Fertility		Liver Detoxification		Skin Support	
Cardiovascular Support	+	Fibre		Metabolic Support	+	Systemic Enzymes	
Cellular Support	+	Gastrointestinal Support	+	Minerals	+	Tickets	
Circulatory Support		Heavy Metal Detoxification		Nerve Support	+	Vitamin and Mineral Formulas	+
Cognitive Support	+	Hormonal Support	+	Neurotransmitter Support	+	Vitamins	+
Connective Tissue		Immune Support	+	Oral Support		Clearance	
Dr Wentz Recommended Products		John Masters	+	Oxalates			
Electrolytes		Joint		Prostate Support			
Energy Support	+	Joint, Tendon and Ligament Support	+	Protein Powders			

Yourhealthbasket, aka Detoxpeople -

This screenshot shows the top portion of the YourHealthBasket website. At the top left is a logo with three interlocking loops in orange, black, and green. Below it is a search bar. To the right of the search bar is a phone icon with the number 01245 905505 and a shopping cart icon showing 0 items for £0.00. A green navigation bar contains links for Categories, LipoLife®, Restore (Gut Health), Nordic Naturals, Practitioners, About Us, Contact Us, and View Cart. On the left side, there are sections for MANUFACTURERS (with a dropdown menu) and CATEGORIES (listing SPECIALS, ALL PRODUCTS, 12444, 5-HTP, 5-MTHF, ACIDOPHILUS, AKG / AAKG, ALKALINE, ALOE VERA, AMINO ACIDS, ASTAXANTHIN, BARLEY / WHEAT GRASS, and BENTONITE CLAY). The main content area features a large graphic of the interlocking loops logo and the text 'YourHealthBasket for practitioners'. To the right of this graphic are the logos for 'lipolife' and 'Jigsaw Health'.

<https://www.yourhealthbasket.co.uk/>

<https://www.detoxpeople.eu/>



detoxpeople

MANUFACTURERS

- Select a Manufacturer -

CATEGORIES

ALL PRODUCTS
£1 SHELF
10% SHELF
SPECIALS
END OF LINE / DAMAGED PACKAGING
5-HTP
5-MTHF
AKG / AAKG
ALKALINE
ALOE VERA
AMINO ACIDS
ASTAXANTHIN
BARLEY / WHEAT GRASS
BENTONITE CLAY



detoxpeople

Welcome to detoxpeople - Nature's Warehouse.

- All orders placed before 3pm will be dispatched the same day.*
- UK orders over £65 are sent free of charge by Royal Mail
- We can ship almost anywhere in the world - just ask!

We are here to provide the best natural health products.
If you have any questions, please call
01245 206288.



Questions?
Click here to chat with us

The Basic Package

What we should all be taking to live to our full potential!



Muscles, Joints & Bones

Transdermal Nutrients

Fermenting Gut Products

CATEGORIES

- > A - Z of Products
- > Special Offers & Packages
- > Antioxidants
- > The Basic Package - what we should all be taking to live to our full potential!
- > Dr Myhill's Books
- > Fermenting gut products
- > Improving energy - mitochondrial, adrenal and thyroid support
- > Infections - avoid and treat aggressively
- > Low blood sugar (hypoglycaemia)
- > Maximising brain function
- > Muscles, joints and bones

FEATURED PRODUCTS



A FLU PACKAGE - (1x Ascorbic acid, 1x Zinc Plus, 1x Selenium

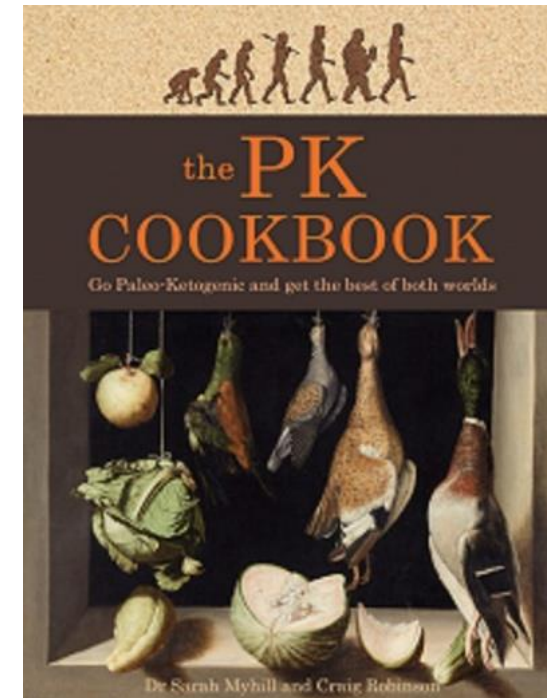


A May Madness Special Offer - Buy 1 x Multi-Mineral Mix



B12 Oral Spray 25 ml

<https://www.salesatdrmyhill.co.uk>





Seeking Health

<https://www.seekinghealth.com/>



[Categories](#) [LipoLife®](#) [Glossary](#) [Advanced Search](#) [About Us](#) [FAQ](#) [Contact Us](#) [View Cart](#)

detoxpeople MANUFACTURERS

- Select a Manufacturer -

CATEGORIES

ALL PRODUCTS

£1 SHELF

10% SHELF

SPECIALS

END OF LINE / DAMAGED PACKAGING

5-HTP

5-MTHF

AKG / AAKG

ALKALINE

ALOE VERA

AMINO ACIDS

ASTAXANTHIN

BARLEY / WHEAT GRASS

BENTONITE CLAY

BETA GLUCAN

BETAINE HCL


BIOTIN

BOSWELLIA

BROMELAIN

CALCIUM

CAPRYLIC ACID

Display:  

Sort By: Select Sort Method...

Show: 50



5-HTP Extended Release, 200 mg, 30 tabs - Seeking Health

£10.99

[Add To Cart](#)



5-HTP, 50 mg - 100 Vegetarian Capsules - Seeking Health

£21.36

[Add To Cart](#)



5-HTP, 50 mg, 100 Lozenges - Seeking Health - currently unavailable

£16.86

[More Info](#)



Acetyl-L-Carnitine, 500 mg, 90 veg caps - Seeking Health

£23.99

[Add To Cart](#)



Active B12 / B-12 5000 Lozenges - 60 Lozenges - Seeking Health

£25.86

[Add To Cart](#)



Active B12/B-12 1000 - 60 Lozenges - 1000 mcg (as Adenosylcobalamin and Methylcobalamin) - Seeking Health

£11.24

[Add To Cart](#)



Active B12/B-12 Lozenges With L-5-MTHF - 60 Lozenges - Seeking Health

£23.61

[Add To Cart](#)



Active Folate - 60 Lozenges - Seeking Health

£12.99

[Add To Cart](#)



Active Magnesium Chewable, 100 mg, 100 Chewable Tablets - Seeking Health

£20.24

[Add To Cart](#)




Adeno B12/B-12 - 60 Lozenges - Seeking Health

£22.49

[Add To Cart](#)



 Offline - Leave a

Metabolics



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Why Choose Metabolics?

Quality and purity are the Metabolics difference. We want our nutritional supplements to do their job, and do it as effectively as possible. They need nothing to hold them back. So that's what we give them.

It all starts with the ingredients. Quality out demands quality in. We source the best quality raw materials, of the highest purity, then we add ... next to nothing. Most of our capsules products contain only the active ingredients ... and nothing



Metabolics Are
Making Changes
Pricing, Packaging
& Labelling

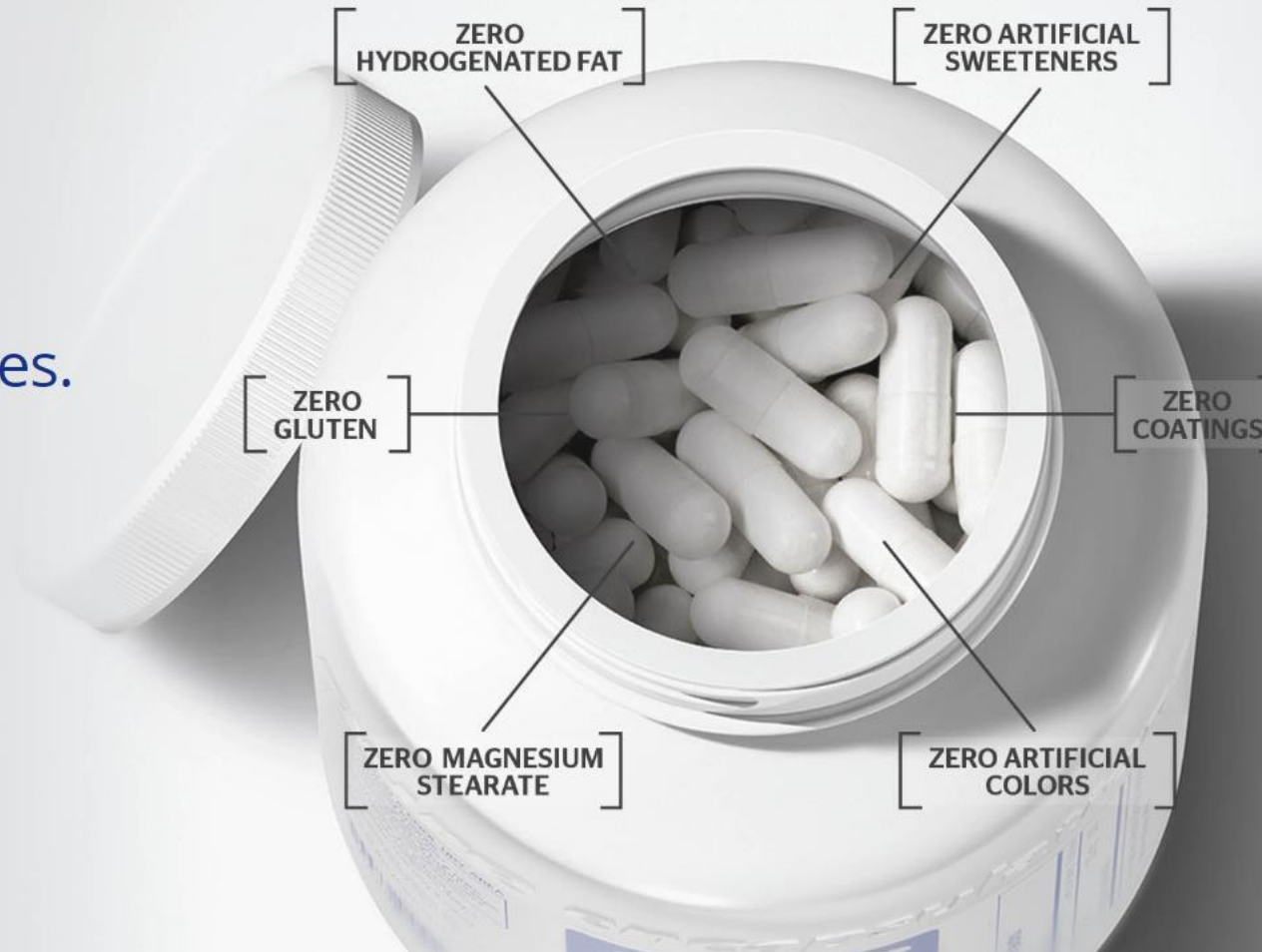
Very pure (no
adjuvants),
most in liquid form

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accurate specialty testing since 1972.



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ECOLOGICAL MEDICINE



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