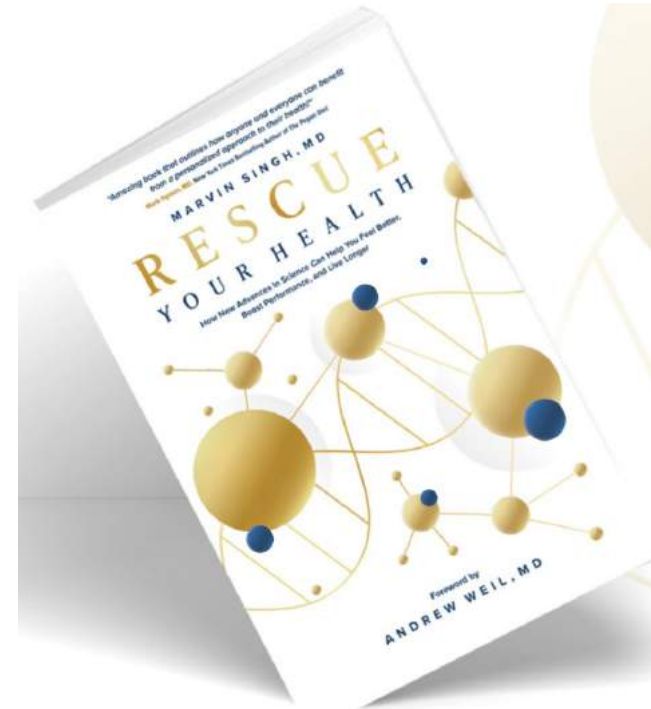


Feeding the Microbiome
And Nourishing Digestive Health

Dr. Marvin Singh

My Background

- Diplomate, American Board of Integrative Medicine
- Board Member, American Board of Integrative Medicine
- Contributing Faculty, Andrew Weil Center for Integrative Medicine
- Director of Integrative Gastroenterology, UC Irvine
- Previously Assistant Professor at Johns Hopkins and UCLA
- Founder, Precisione Clinic



Rescue Your Health

A game changer in the world of medicine and well-being! With a focus on making the science accessible and understanding what your health risks are *before* they impact your health and quality of life, Dr. Singh offers integrative solutions and real-life scenarios that anyone can use to create positive changes in their life and rescue their health.

<https://www.rescueyourhealth.com>

My Story

ENZYMEDICA®



2015



2017

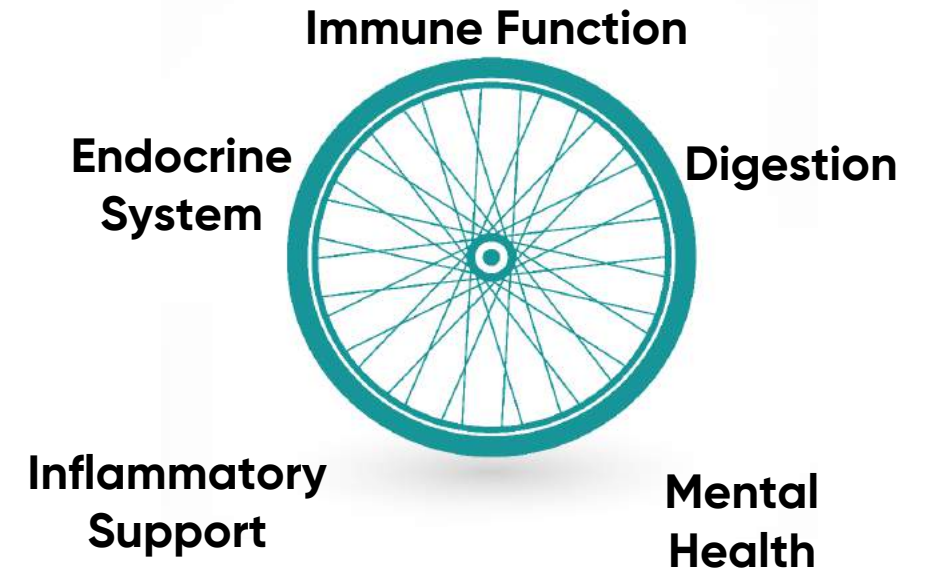
What Does Digestive Health Really Mean?

- Finding a balance; increasing diversity of species in the gut microbiome
- Optimizing risk factors
- Prevention of disease
- Reduction of gastrointestinal symptoms
- Digestive health = Overall Health = Wellness

Healthy Gut, Healthy Life

The gut is the central hub to all functions of the human body.

- **70% of the immune system** is found in the gut.¹
- Runs our metabolism
- Makes vitamins
- Up to **90% of serotonin** is produced within the GI tract.²
- Communicates with every other cell in our bodies
 - Second brain → vagus nerve connects the brain and the digestive system
 - If cut, the digestive system works on its own → Enteric Nervous System



1. Vighi G, Marcucci F, Sensi L, Di Cara G, Frati F.2008;153(Suppl 1):3-6. doi:10.1111/j.1365-2249.2008.03713.x.

2. Retrieved June 20, 2018, from <http://www.caltech.edu/news/microbes-help-produce-serotonin-gut-46495>

Gut Microbiome

- Over 100 trillion microorganisms that coexist within us
 - 10 times more microbes than human cells in your body
 - 100 times more microbial DNA than human DNA in your body
 - 3.5–4.5 pounds of organisms that help make vitamins, protect against infection, and affect metabolism
 - Fungi
 - Viruses
 - Bacteria



What Is Gut Imbalance?

Dysbiosis = Imbalance of Flora in the Gut Microbiome

- Causes of Gut Imbalance:
 - Chronic stress
 - Poor food choices, lack of fiber
 - Cigarette smoking, alcohol
 - Lack of exercise
 - Medications (prescribed and over the counter)
 - Infections
 - Environmental toxins
 - Food Intolerances
 - Low stomach acid
 - Genetics





Importance Of Diet

- Diet and lifestyle = critical factors for composition of gut microbiome
- Diet effects host metabolism and commensal bacteria metabolism in the gut lumen
- Microbial metabolites formed from dietary compounds such as acetaldehyde from ethanol or ammonia, polyamines and hydrogen sulfide from protein → role in initiation/progression of colon cancer
- Short chain fatty acids from fiber = anti-carcinogenic properties
- These interactions effect immune responses

What are Enzymes?

- Enzymes are catalysts that speed up biological reactions
- Digestively speaking, they lower the amount of energy that is required to transform the foods we eat into molecules that are small enough to pass through the intestines and into circulation
- These can be our own self-produced enzymes or enzymatic supplements taken with meals
- The body has over 75K enzymes doing both digestive and metabolic work!
- A lack in digestive enzymes can contribute to the top digestive issues in the US
 - Exocrine pancreatic insufficiency
 - Bloating, irregularity, food intolerances



Food Intolerance + Digestion

When the body does not have a **sufficient supply of the enzymes** needed to digest a certain food, undigested particles progress to the intestines, where **fermentation** occurs.

Symptoms may include occasional gas, bloating, abdominal discomfort, and diarrhea.

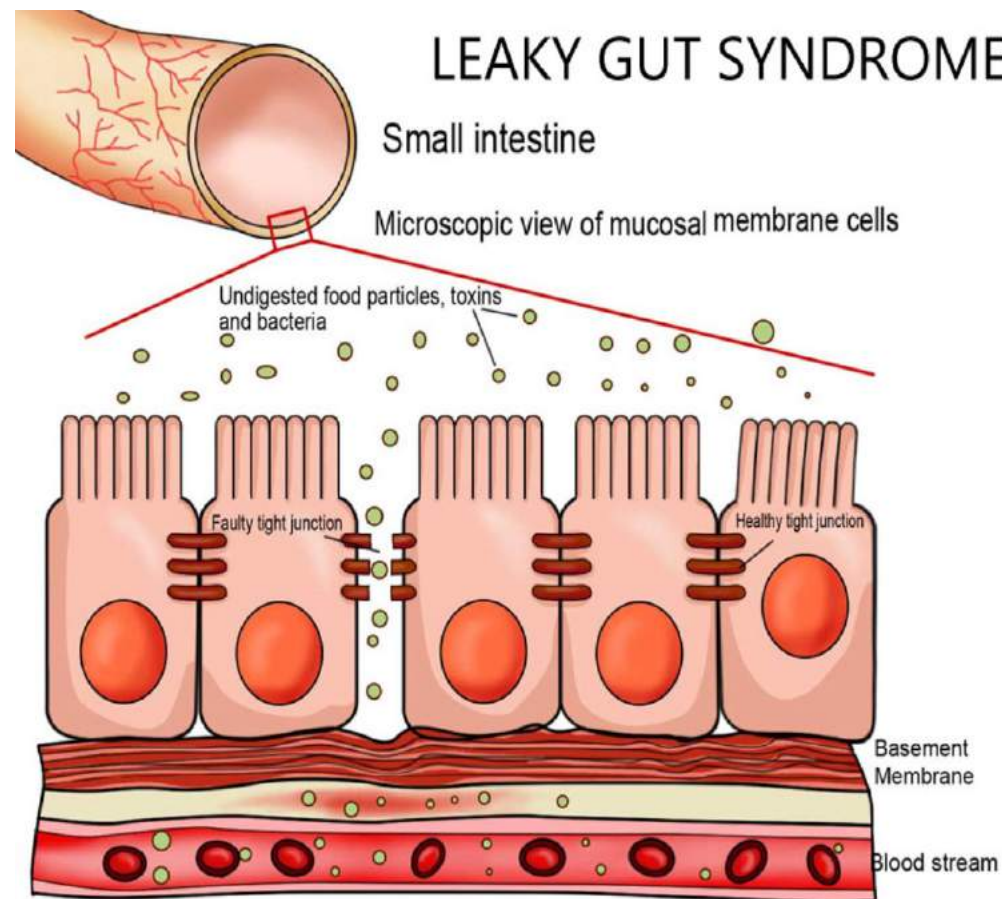
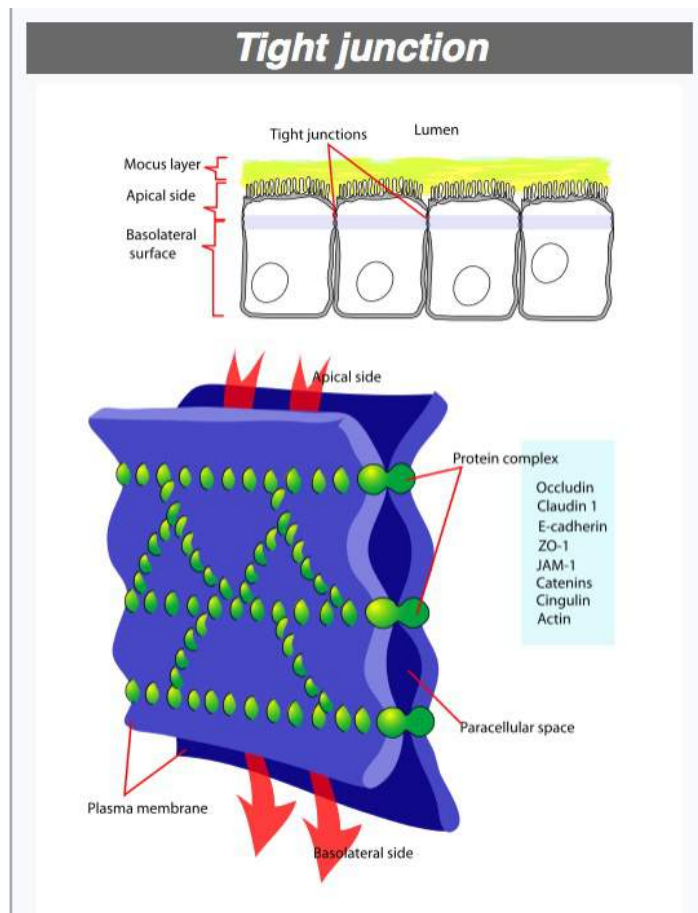
Reactions differ...

- Some people may be able to eat a **small serving** of the food **without discomfort**.
- Others may **experience symptoms** when **even the slightest** quantity is consumed.
- In **extreme sensitivity**, symptoms can arise due to **cross-contamination** during food preparation or processing.

Did You Know?

The three most common food intolerances are:

- Lactose
- Casein
- Gluten



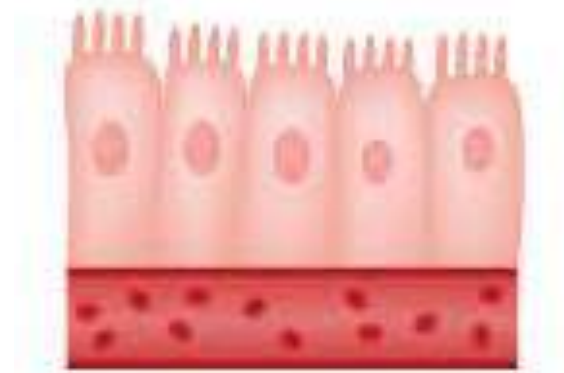
DPP-IV: The “Gluten-Busting Enzyme”

Dipeptidyl peptidase IV (DPP-IV for short) is a **proteolytic enzyme** that specializes in **breaking down** the **protein-rich bonds** in gluten (**gliadin + glutenin**) and even casein.

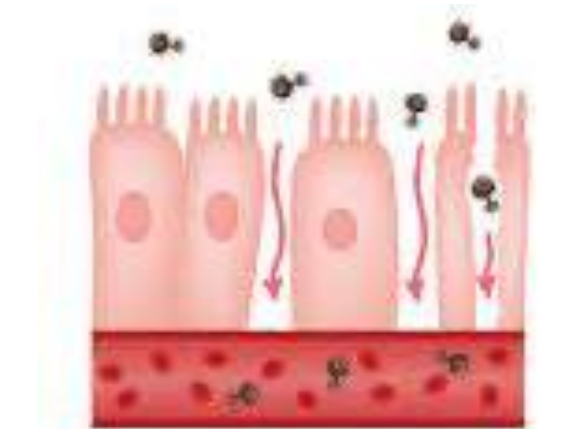
Humans produce their own **DPP-IV** in the **epithelial cells** of the intestine. However, those with intolerances may not produce enough.

Over time, **epithelial cells** may become damaged for a host of reasons. **Imbalanced microbiome**, environmental **toxins**, and even **medications** may be the root cause of damage.

Using **supplemental DPP-IV** can help alleviate the symptoms associated with gluten and casein intolerance by supporting a more **complete degradation** of these **challenging proteins**.*



Healthy Epithelial Lining



Damaged Epithelial Lining

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

Digest Spectrum™

- **Complete, high potency** digestive enzyme to help **break down the entire meal.***
- **Benefit – Better break down of food:**
 - More nutrition available from healthy foods
 - Better detoxification and regularity
- Specialized digestive support for **gluten.***
 - Features **DPP-IV**, a protease specific to breaking down gluten protein
- **High Lactase: 2,000 ALU**
- Very high **Xylanase** to break down **phenolic compounds***
 - **FODMAP**



Supplement Facts		
Serving Size: 2 Capsules		
Servings Per Container:		
Amount Per Serving		%DV
DPP-IV	1,400 DPPU	**
Amylase <i>Thera-blend™</i>	14,000 DU	**
Xylanase	20,000 XU	**
Protease <i>Thera-blend™</i>	98,000 HUT	**
Alpha Galactosidase	600 GalU	**
Glucoamylase	40 AGU	**
Lactase	2,000 ALU	**
Lipase <i>Thera-blend™</i>	916 FCCFIP	**
Maltase	200 DP°	**
Cellulase <i>Thera-blend™</i>	400 CU	**
Invertase	150 SU	**
Pectinase (w/ Phytase)	50 Endo-PGU	**
Hemicellulase	50 HCU	**
** Daily Value not established		

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AUTISM HOPE



ALLIANCE

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Additional Challenges

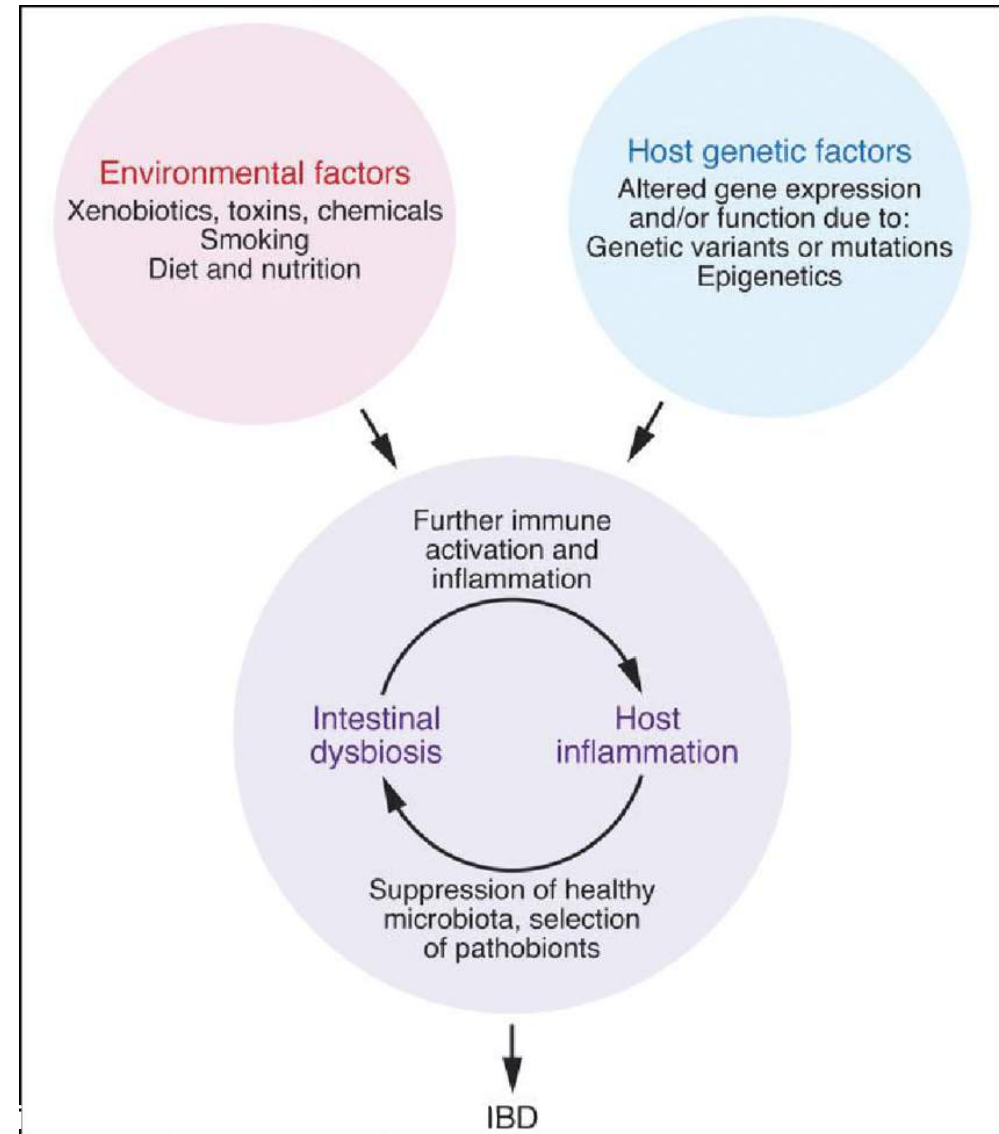
Even with a healthy diet and digestive support, genetic or environmental factors can activate inflammation and dysbiosis.

Environmental:

- Glyphosate
- BPA
- Arsenic
- Nanoparticles

Genetic Factors:

- Genetic variants
- Mutations
- Epigenetics



Berberine

In addition to supporting inflammatory modulation, Berberine has a long history of enhancing the microbiota via two modes:

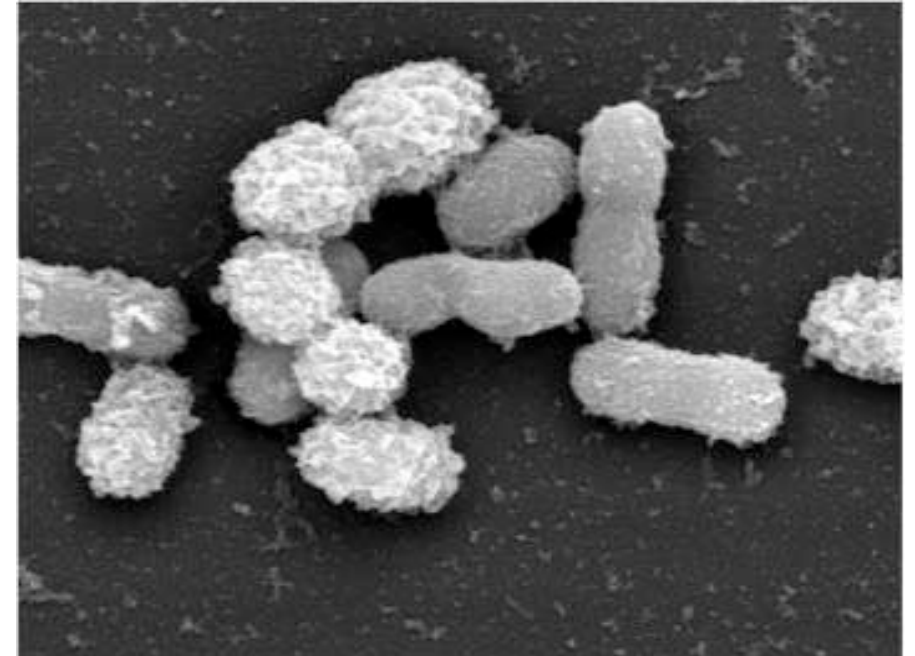
1. Potent antimicrobial
2. Enhances healthy microflora
 - Especially Akkermansia, one of the most abundance species in the human intestine – up to 5% of total population



“... berberine promotes recovery of colitis and exerts inhibitory effects on proinflammatory responses in colonic macrophages and epithelial cells. Thus, berberine may represent a new therapeutic approach for treating gastrointestinal inflammatory disorders.”

Akkermansia muciniphila: Superstar

- Dysbiosis – SIBO, IBD
- Akkermansia muciniphila facilitates normalization of gut microbiota
- Downregulates pro-inflammatory cytokines TNF- α , IFN- γ
- Strain ATCC: modulates differentiation of Tregs and increases production of Short Chain Fatty Acids



Optimizing And Maintaining Digestive Health

- Comprehensive and integrative approach
- Paramount to include the principles of lifestyle medicine and wellness
- Optimizing wellness parameters → optimizes microbiome diversity and resiliency → helps establish and maintain optimal health and prevent disease states
- Personalized approach is key
- Not only is health optimized, but symptoms are also mitigated



QUESTIONS AND ANSWERS!

ENZYMEDICA®
Natural Digestive Health & Wellness