



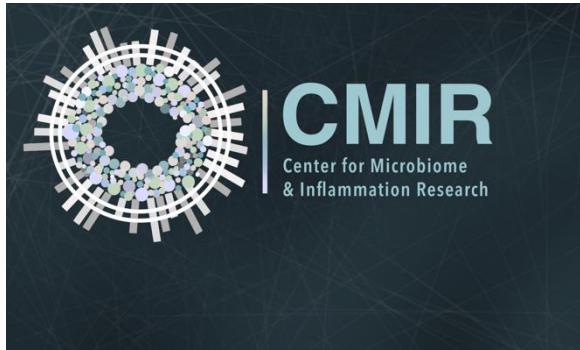
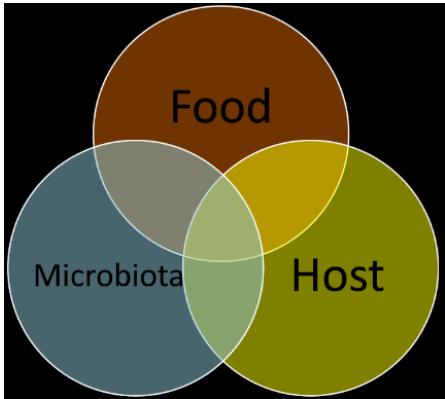
**MEETING  
OF THE  
MINDS**

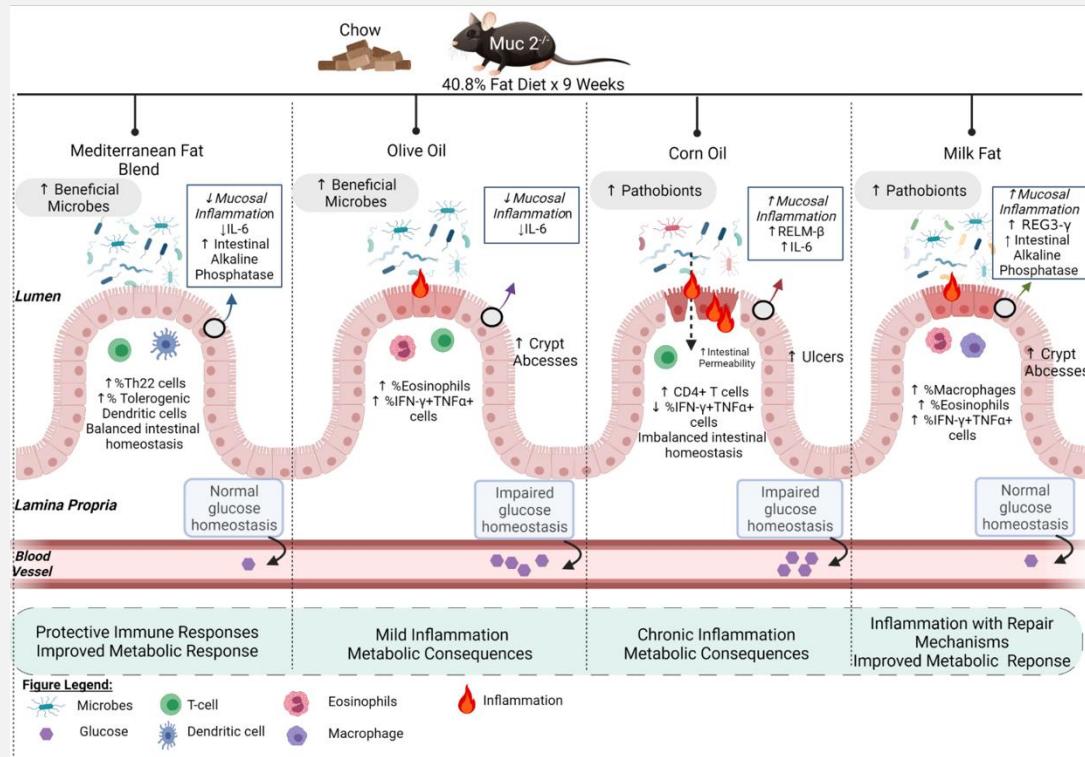
## **WOMAN IN IBD RESEARCH AWARD**

**Professor Deanna L. Gibson, Ph.D.**

**Biology, Faculty of Science**

**The University of British Columbia, Okanagan,  
Canada**





# A Mediterranean-like fat blend promotes protection against severe colitis in a chronic model of colitis.

GUT MICROBES  
2022, VOL. 14, NO. 1, e2055441 (23 pages)  
<https://doi.org/10.1080/19490976.2022.2055441>

RESEARCH PAPER

**A Mediterranean-like fat blend protects against the development of severe colitis in the mucin-2 deficient murine model**

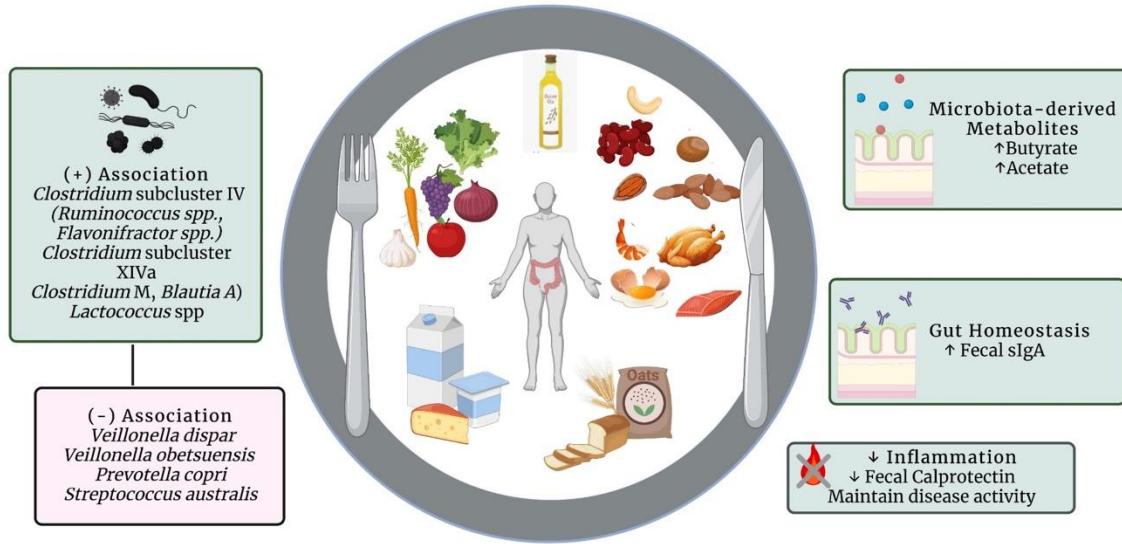
Natasha Haskey<sup>a</sup>, Jiayu Ye<sup>a</sup>, Mehrbod Estaki<sup>b</sup>, Andrea A. Verdugo Meza<sup>a</sup>, Jacqueline A. Barnett<sup>a</sup>, Mitra Yousefi<sup>c</sup>, Blake W. Birnie<sup>a</sup>, Samantha Gruenheid<sup>a</sup>, Sanjoy Ghosh<sup>a</sup>, and Deanna L. Gibson<sup>a,c,d</sup>

<sup>a</sup>Department of Biology, University of British Columbia - Okanagan Campus; Kelowna, British Columbia, Canada; <sup>b</sup>Department of Pediatrics, University of California, San Diego, La Jolla, California, USA; <sup>c</sup>The Center for Phenogenomics Infection & McGill University Research Centre on Complex Traits; McGill University, Montreal, Quebec, Canada; <sup>d</sup>Department of Medicine, University of British Columbia - Okanagan Campus, Kelowna, British Columbia, Canada; <sup>a</sup>Associate Professor - Department of Microbiology and Immunology, McGill University, Montreal, Quebec, Canada



OPEN ACCESS

## Mediterranean Diet Pattern for Ulcerative Colitis



A Mediterranean diet pattern, rich in fat and fiber, was well tolerated and could be recommended as a remission diet to UC patients to help support disease management alongside front-line therapy drugs.

*Journal of Crohn's and Colitis*. 2023; 17: 1569–1578  
<https://doi.org/10.1093/ecco-ccc/jad073>  
Advance access publication 24 April 2023  
Original Article



## A Mediterranean Diet Pattern Improves Intestinal Inflammation Concomitant with Reshaping of the Bacteriome in Ulcerative Colitis: A Randomised Controlled Trial

Natasha Haskey,<sup>a</sup> Mehrbod Estaki,<sup>b,1</sup> Jiayu Ye,<sup>c</sup> Rachel K. Shim,<sup>d</sup> Sunny Singh,<sup>e</sup> Levinus A. Dieleman,<sup>f</sup> Kevan Jacobson,<sup>g,1</sup> Deanna L. Gibson<sup>h,1</sup>

Front. Nutr., 20 December 2022  
Sec. Clinical Nutrition  
Volume 9 – 2022 | <https://doi.org/10.3389/fnut.2022.1080156>

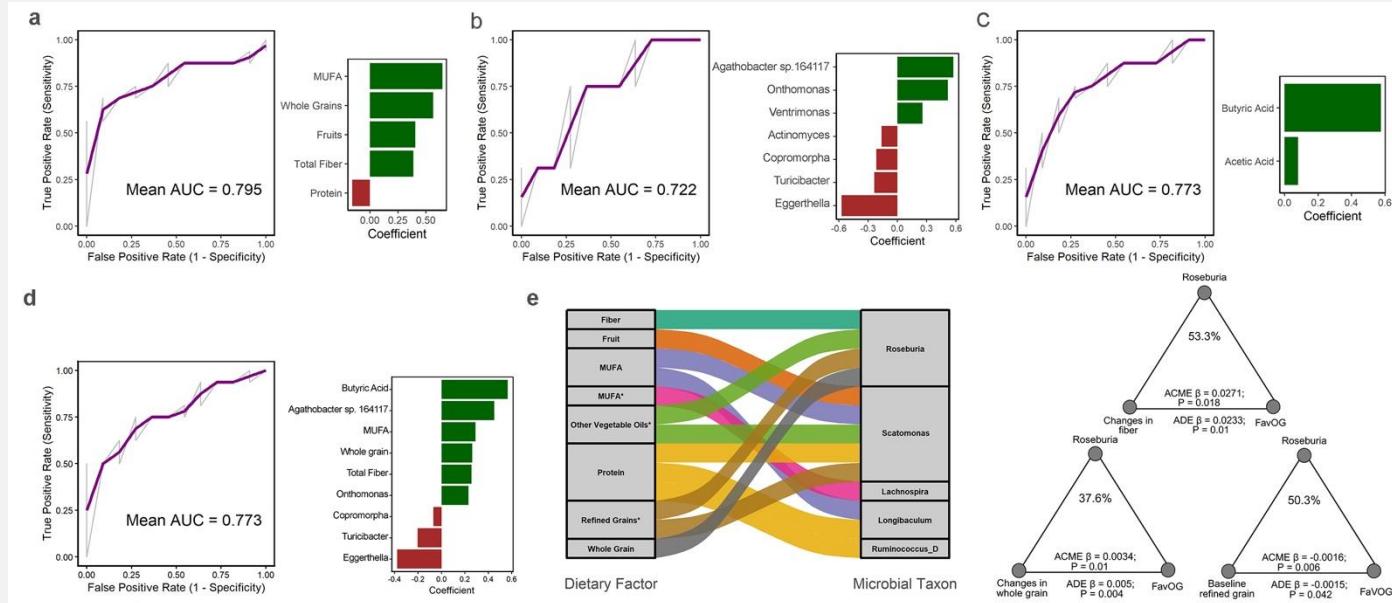
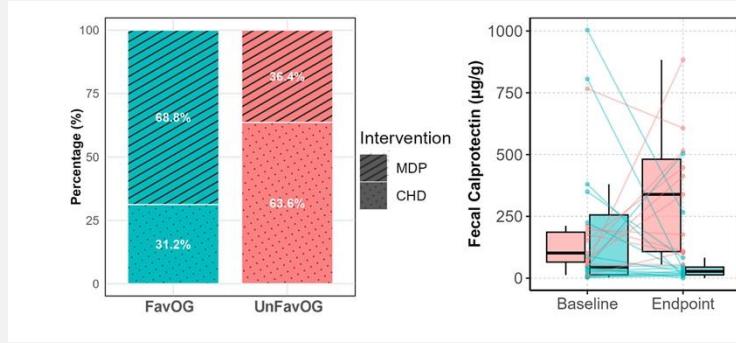
## Dietary adherence to the Mediterranean diet pattern in a randomized clinical trial of patients with quiescent ulcerative colitis

Natasha Haskey<sup>1</sup>, Rachel C. K. Shim<sup>2</sup>, Alexander Davidson-Hunt<sup>1</sup>, Jiayu Ye<sup>3</sup>, Sunny Singh<sup>4</sup>, Levinus A. Dieleman<sup>5</sup>, Kevan Jacobson<sup>6</sup>, Sanjoy Ghosh<sup>1</sup> and Deanna L. Gibson<sup>1,7\*</sup>

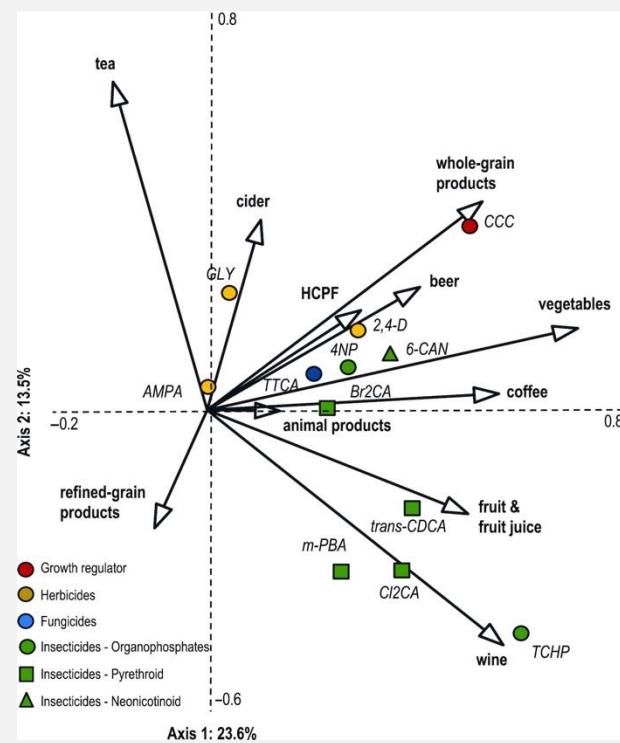
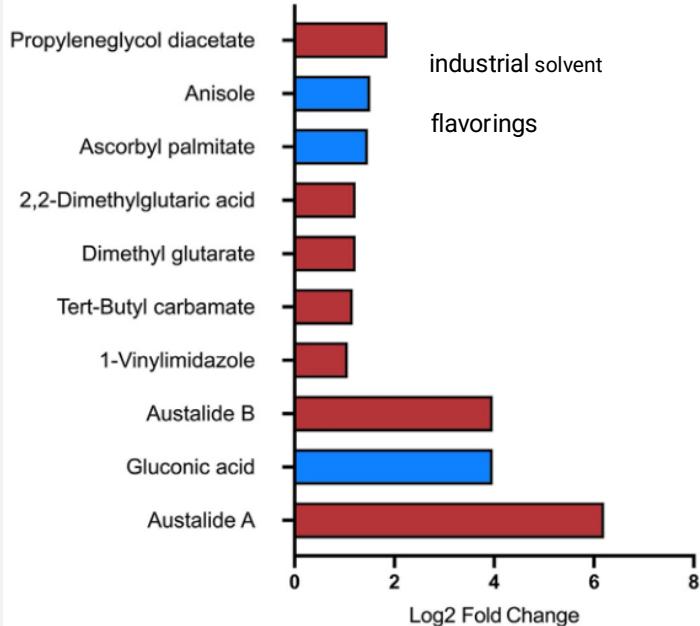
# Dietary and Microbial Predictors of Sustained Remission in Ulcerative Colitis

Post-hoc analysis using machine learning models to integrate dietary, microbial, and host-level features to identify predictors of favorable outcomes.

Longitudinal changes in diet, microbiota, and SCFAs each demonstrated moderate discriminative capacity for FavOG..



# Some metabolites are food-related, while the others reflect non-dietary exposures.



## ORIGINAL RESEARCH—CLINICAL

Metabolomic Signatures Highlight Fiber-Degrading Bacteroides Species in Mediterranean Diet Response Among Ulcerative Colitis



Gastro Hep Advances 2025;4:100606

Natasha Haskey,<sup>1,\*</sup> Jiayu Ye,<sup>2,\*</sup> Jessica Josephson,<sup>1</sup> Maitreyi Raman,<sup>3</sup> Sanjoy Ghosh,<sup>1</sup> and Deanna L. Gibson<sup>1,4</sup>

Changing from a habitual Western diet to a MedDiet was associated with increased pesticide exposure including glyphosate (Rempelos 2022 AJCN).

# Glyphosate is a systemic herbicide: North America's Toxic Food Crops and the Enduring Legacy of Disease



## Weed-killing chemical found in pasta, cereal and cookies sold in Canada: study



**CTV National News: Chemical found in some foods**  
A weed-killing chemical has been found in pasta, cereal and other foods sold in Canada. Avis Favaro reports.

**CTVNews.ca: 'We are not aware of its dangers'**  
Stephanie Senff of the MIT Computer Science and Artificial Intelligence Laboratory speaks about the risks of glyphosate consumption.

**CTVNews.ca: Levels are below what is permitted**  
University of Guelph toxicologist Professor Len Ritter speaks about the limits that Health Canada has set on glyphosate in food.

1 2

## Weedkiller found in wide range of breakfast foods aimed at children

Cancer-linked herbicide, sold as Roundup by Monsanto, present in 45 products including granola, snack bars and Cheerios

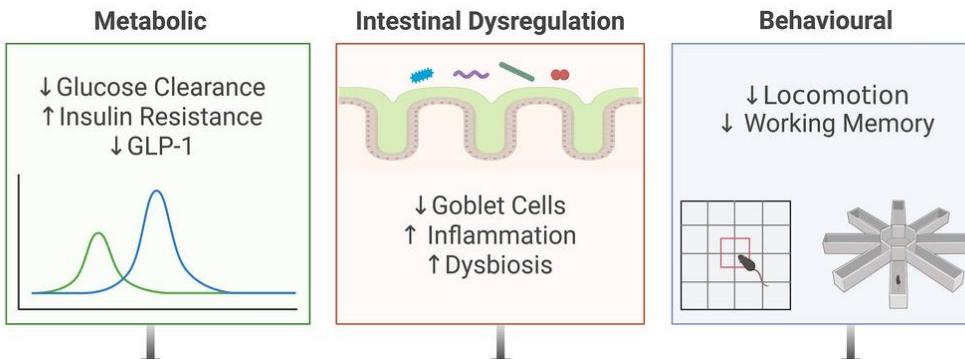
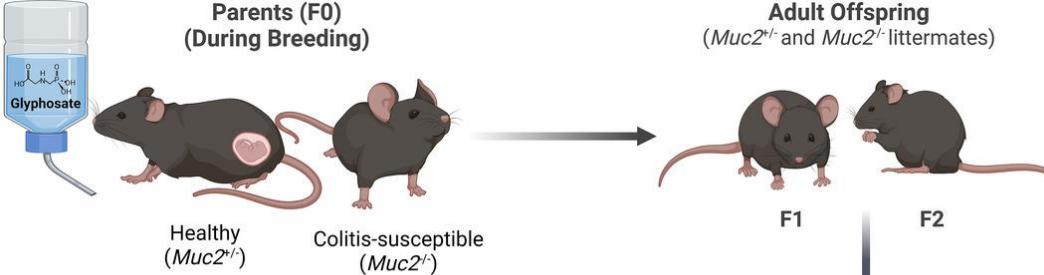


▲ Farmers spray 200m pounds of weedkiller on crops, including corn, soybeans, wheat and oats, every year.  
Photograph: Benoit Tessier/Reuters

Significant levels of the weedkilling chemical glyphosate have been found in an array of popular breakfast cereals, oats and snack bars marketed to US children, a new study has found.



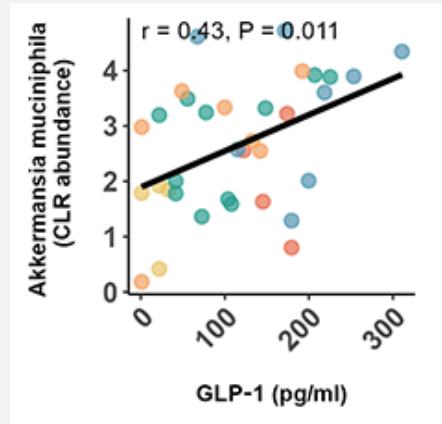
**BRIEF**  
**Glyphosate is in most beer and wine, study says**



### Microbiome-Metabolite Disruption

Genotype	Microorganism	Metabolite(s)	Direction of Association	Notable Effect
Healthy ( <i>Muc2<sup>+/</sup></i> )	<i>Akkermansia muciniphila</i>	GLP-1	Positive	Dose x Generation Effect
		Tryptophan, I3A	Negative	Dose-dependent Effect
Healthy ( <i>Muc2<sup>+/</sup></i> )	<i>Parabacteroides distasonis</i>	Tryptophan, Kynurenone	Negative	Dose x Generation Effect
		GLP-1	Positive	
Healthy ( <i>Muc2<sup>+/</sup></i> )	<i>Parabacteroides goldsteinii</i>	GLP-1, Kynurenone	Negative	Dose x Generation Effect
Colitis-susceptible ( <i>Muc2<sup>-/-</sup></i> )	<i>Bifidobacterium</i> spp.	GLP-1, I3A	Negative	Dose x Generation Effect
		Kynurenone, IPA	Positive	
Colitis-susceptible ( <i>Muc2<sup>-/-</sup></i> )	Cyanobacteria (Gastranaerophilales)	I3A	Positive	Dose x Generation Effect

Glyphosate alters host-microbe signaling networks, particularly involving GLP-1 and kynurenone pathways.



Science of the Total Environment 1002 (2025) 180437



Contents lists available at ScienceDirect

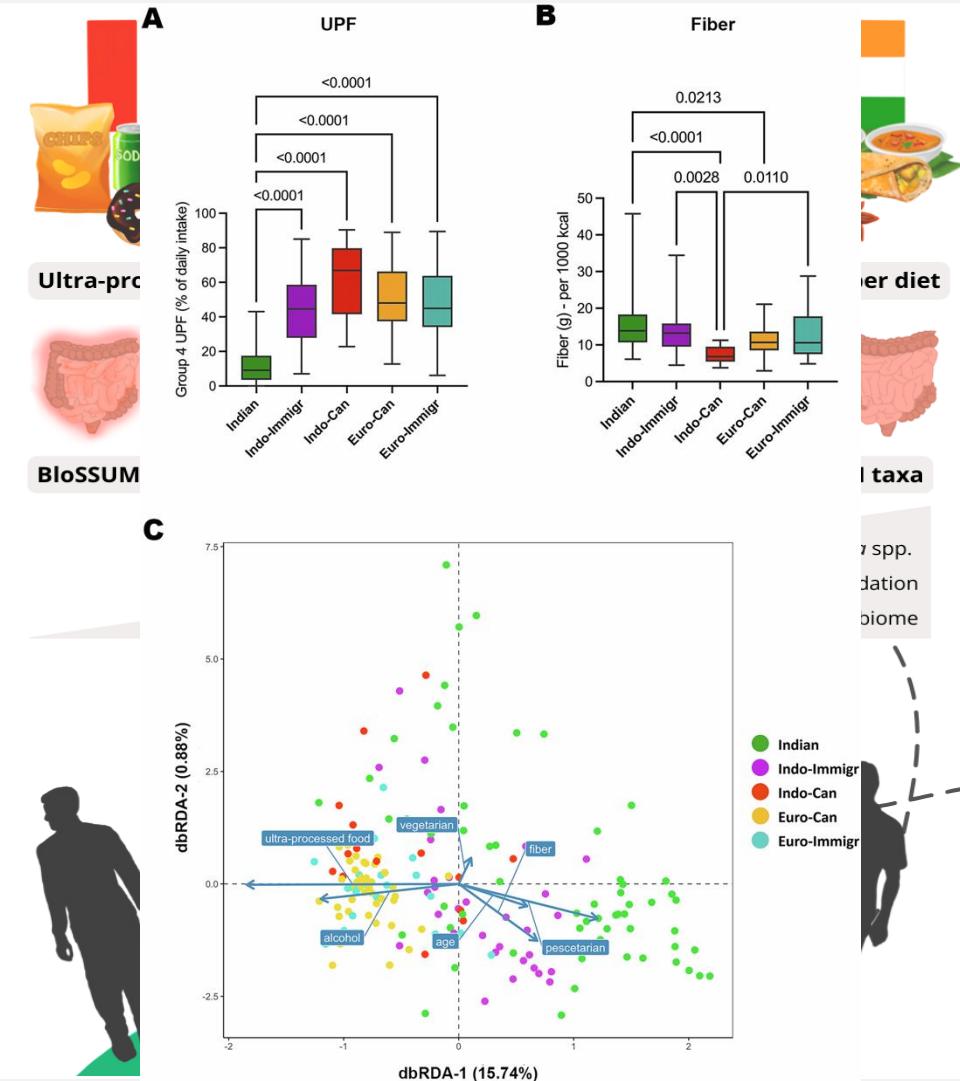
Science of the Total Environment

journal homepage: [www.elsevier.com/locate/scitotenv](http://www.elsevier.com/locate/scitotenv)



Prenatal exposure to dietary levels of glyphosate disrupts metabolic, immune, and behavioral markers across generations in mice

J.A. Barnett<sup>a</sup>, J.K. Josephson<sup>a</sup>, E. Yuzbashian<sup>a</sup>, N. Haskey<sup>a</sup>, M.M. Hart<sup>a</sup>, K.K. Soma<sup>b,c,d</sup>, A. Verdugo<sup>a</sup>, C.J. McComb<sup>a</sup>, M.L. Bandy<sup>a</sup>, S. Ghosh<sup>a</sup>, C. Letef<sup>a</sup>, A. Copp<sup>a</sup>, R. Ishida<sup>a</sup>, J. Gibon<sup>a</sup>, J. Ye<sup>a</sup>, R.T. Giebelhaus<sup>a,f</sup>, S.J. Murch<sup>a</sup>, M.M. Jung<sup>b</sup>, D.L. Gibson<sup>a,g</sup>\*



## The adoption of a westernized gut microbiome in Indian Immigrants and Indo-Canadians is associated with dietary acculturation

Leah D. D'Aloisio, Mamatha Ballal, Sanjoy Ghosh, Natasha Haskey, Nijjati Abulizi, Ramin Karimanghadim, Chuiy Liu, Pacha Sruthi, Lakshmipriya Nagarajan, Sudha Vasudevan, Vignesh Shetty, Mrudgandha Purandare, Ushasi Bhaumik, Debaki Ranjan Howlader, Sepideh Pakpour, Jacqueline Barnett & Deanna L. Gibson 

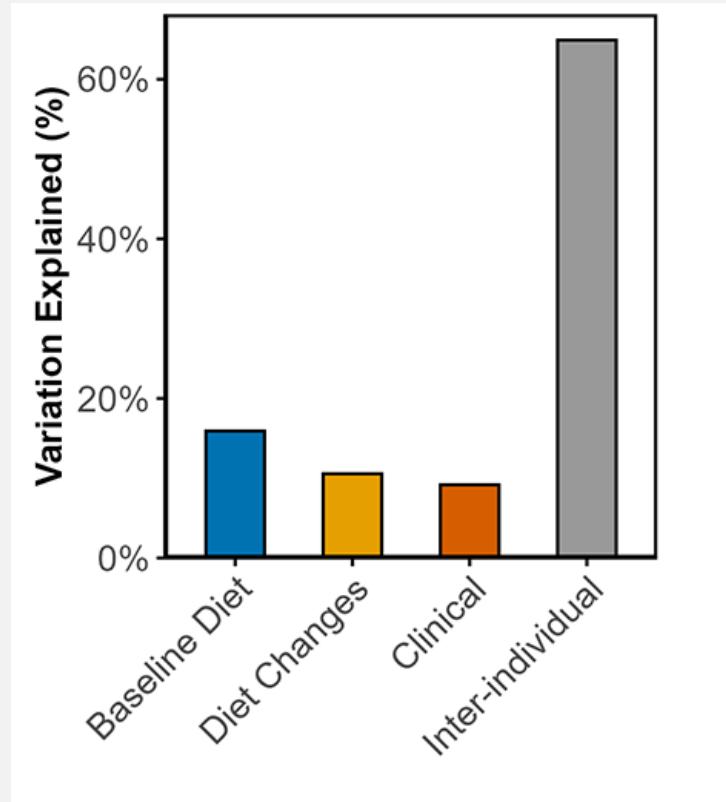
*npj Biofilms and Microbiomes* 11, Article number: 151 (2025) | [Cite this article](#)

1782 Accesses | 2 Altmetric | [Metrics](#)



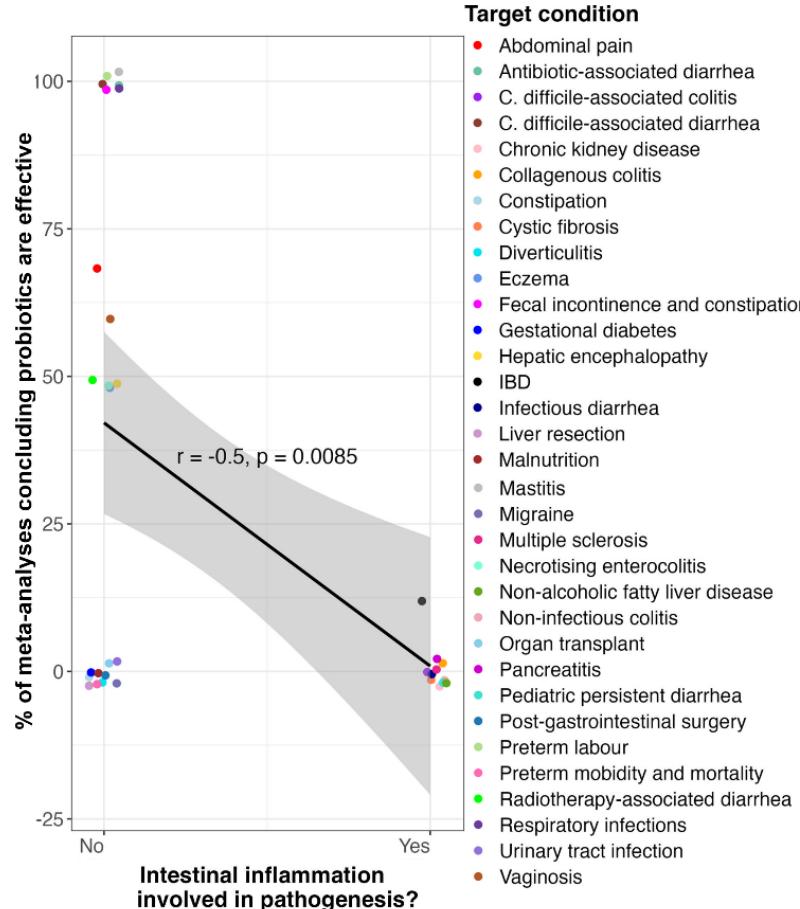
# Can diet alone really reverse a disease-associated gut microbiome?

Relative contributions of the baseline habitual diet, dietary changes over time, and clinical variables to microbiota shifts.



Euclidean distance matrix, revealed individual-specific factors accounted for 65.3% of the variance in microbial diversity, while diet explained 25%.

# Why have microbial therapeutics fallen short?



**Gut inflammation is negatively associated with clinical outcomes of microbial therapeutics as inflammation disrupts microbial colonization.**

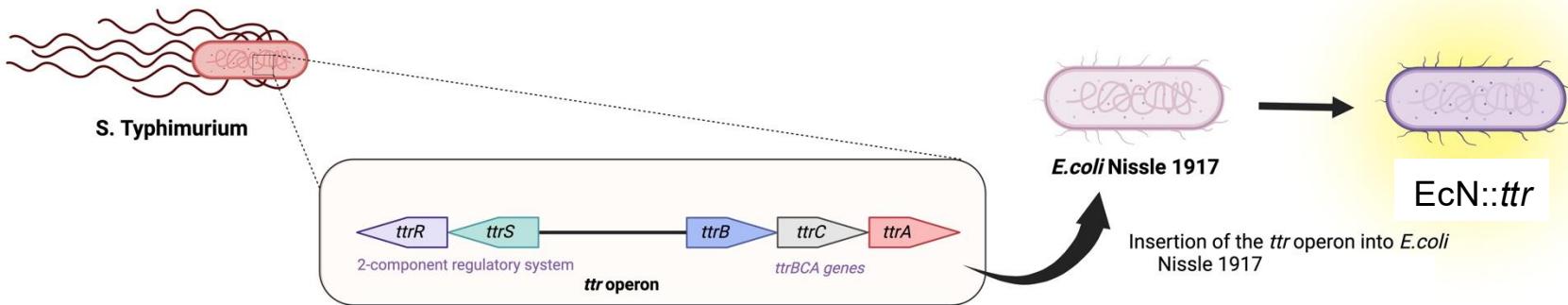
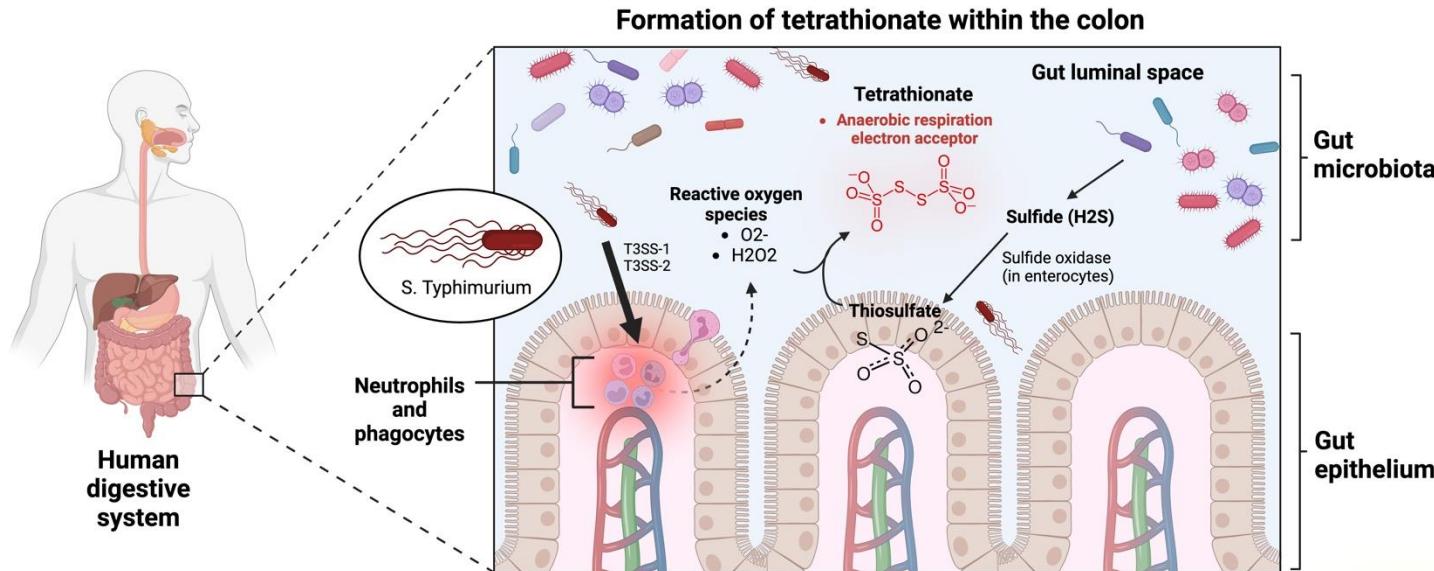
frontiers | Frontiers in Pharmacology

TYPE Perspective  
PUBLISHED: 05 November 2025  
DOI: 10.3389/fphar.2025.1695976

Not quite a cure yet: unlocking the unfulfilled promise of live biotherapeutics for disease treatment

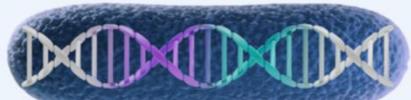
Andrea Verdugo-Meza<sup>1†</sup>, Han M. Chiang<sup>1†</sup>, Emeran A. Mayer<sup>2,3</sup> and Deanna L. Gibson<sup>1,3,4\*</sup>

# Fitness advantage: harness inflammation biproducts as fuel

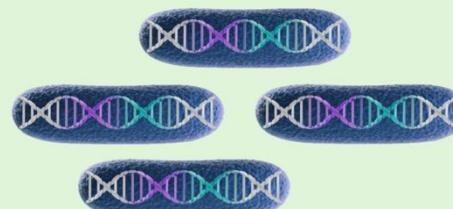


# **EcN::*ttr* harnesses inflammation biproducts as fuel**

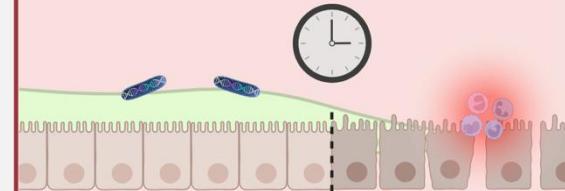
Is engineered to utilize tetrathionate



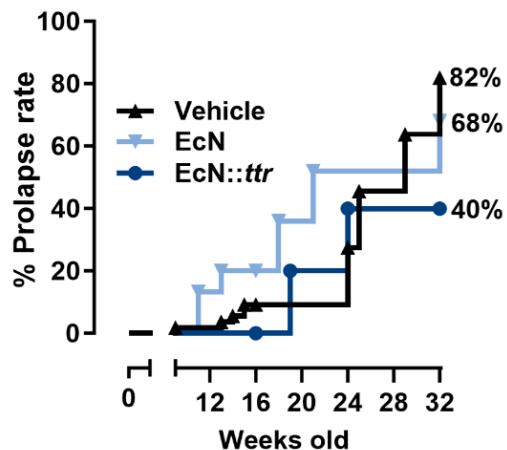
Uses it to expand during inflammation



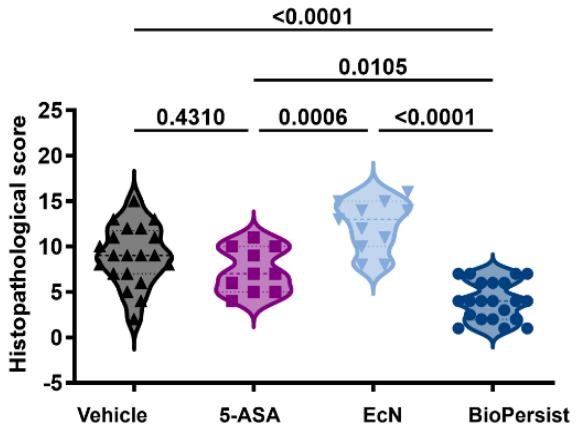
Induces mucosal healing over time



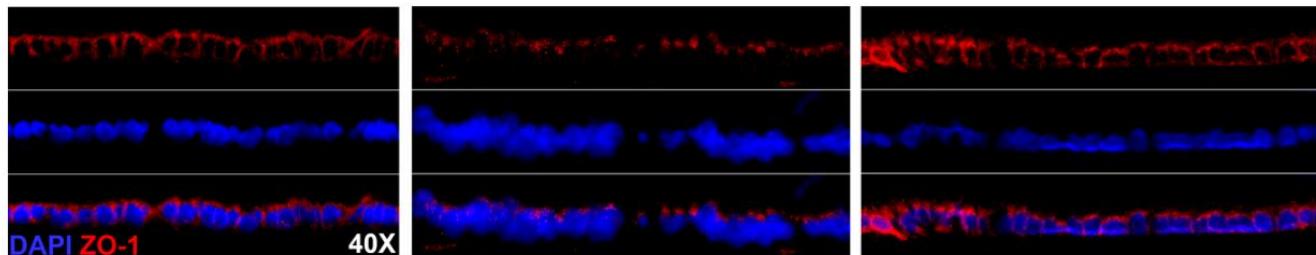
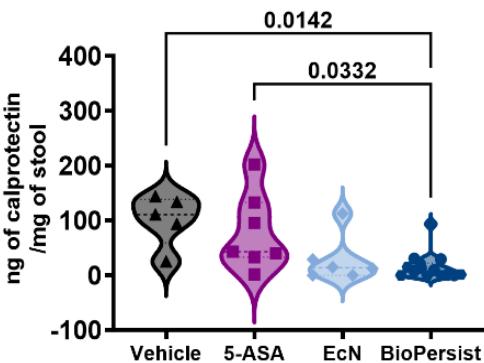
## Prolapse rate



## Histopathology



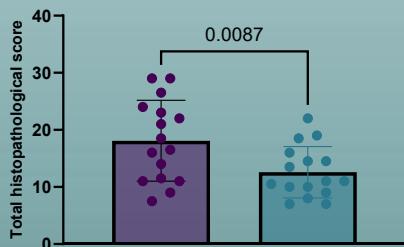
## Fecal calprotectin



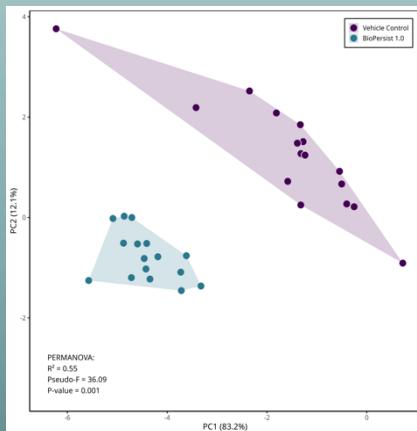
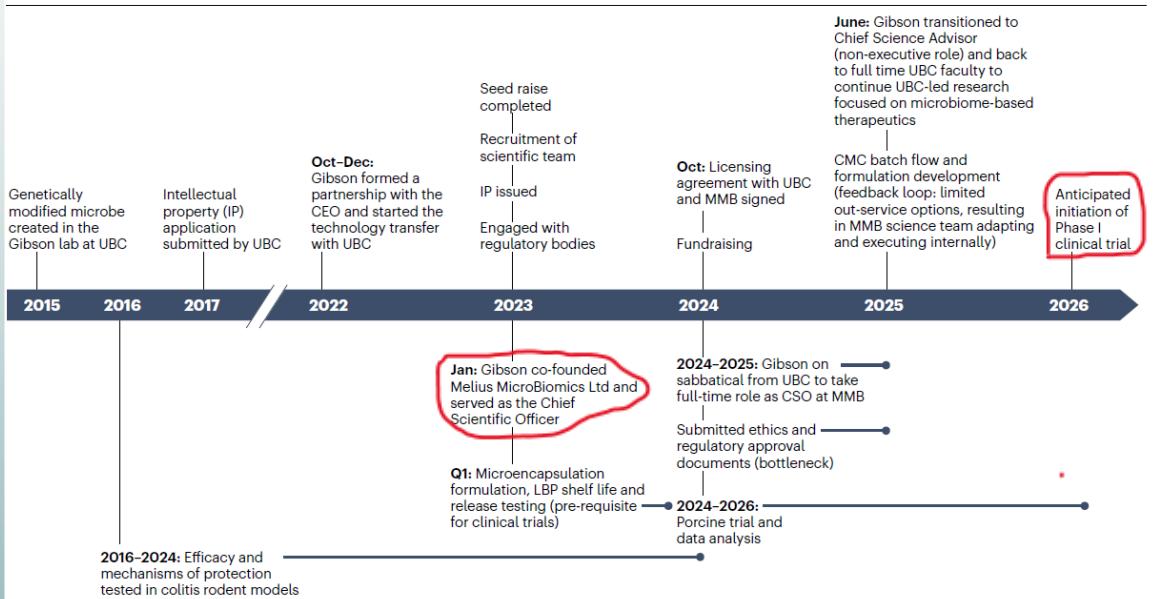
	Vehicle	5-ASA	EcN	BioPersist
IFN- $\gamma$	-	-	+	+
IL-1- $\beta$	-	-	+	+
TNF- $\alpha$	-	-	+	+
EcN::ttr	-	-	-	+



# MELIUS MICROBIOMICS



Porcine  
DSS-colitis EcN::ttr



## nature reviews bioengineering

[nature](#) > [nature reviews bioengineering](#) > [down to business](#) > article

Down to Business | Published: 02 October 2025

### Bioengineering a live biotherapeutic product from bench to business

Deanna L. Gibson [✉](#)

[Nature Reviews Bioengineering](#) 3, 917–919 (2025)

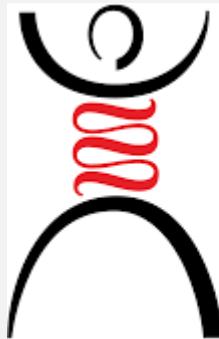
[www.mmblivebio.com](http://www.mmblivebio.com)

# Gibson Lab

95+ trainees in 15 years



<https://blogs.ubc.ca/gibsonlab/>  
deanna.gibson@ubc.ca



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Colitis Canada  
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Michael Smith  
**Health  
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