Peptide Perspectives™

THE GUT–IMMUNE CONNECTION

Can Peptides Help Restore Digestive Health?

WHY THE GUT–IMMUNE AXIS MATTERS

- A central communication network linking the gut, immune system, and brain.
- Helps absorb nutrients and support overall health.
- Acts as a barrier against harmful pathogens.
- Trains the immune system to respond to threats while maintaining tolerance to food and beneficial microbes.

DIFFERENT GUT DISEASES (e.g., IBD, celiac disease, IBS) require distinct treatments and approaches.



FOUR INTERLOCKING SYSTEMS IN GUT HEALTH

INTESTINAL BARRIER
Mucus, tight junctions, and IgA help keep harmful substances out and support gut integrity.

IMMUNE REGULATION
Balances immune responses, reduces excess inflammation, and maintains tolerance to food and beneficial microbes.

MICROBIOME SIGNALING
Gut microbes produce key metabolites (e.g., short-chain fatty acids) that influence immunity, metabolism, and barrier function.

GUT–BRAIN NERVES
A two-way network (enteric nervous system) that helps regulate digestion, immune activity, and stress responses (e.g., via VIP signaling).

KEY PEPTIDES IN GUT & IMMUNE RESEARCH

FDA-APPROVED (SPECIFIC INDICATION)

TEDUGLUTIDE (GLP-2)
FDA-approved ONLY for eligible short bowel syndrome patients requiring parenteral support.

HUMAN TRIALS (BUT NOT APPROVED)

LARAZOTIDE
Celiac barrier candidate; phase 3 trial discontinued, not approved.

PRECLINICAL GUT EVIDENCE (CELL & ANIMAL STUDIES)

BPC-157
Cell and animal gut repair models; human efficacy unproven.

KPV
PepT1 transport and inflammatory signaling; animal colitis research.

VIP
Neuroimmune signaling; investigational use in gut diseases (e.g., IBD, IBS).

LL-37
Antimicrobial peptide; may protect OR aggravate inflammation depending on context.

THYMOSIN ALPHA-1
Immune modulation and host defense; preclinical gut studies.

THYMOSIN BETA-4
Epithelial cell migration and tissue repair; may influence fibrosis; animal research.

WHAT GOOD STUDIES MEASURE

- **Mucosal / Endosocpic Healing**
- **Symptoms** (e.g., pain, bloating, bowel function)
- **Inflammatory Markers** (e.g., CRP, calprotectin, cytokines)
- **Nutrition / Absorption** (weight, vitamin and mineral status)
- **Tolerability** (side effects and long-term safety)

NEXT FRONTIER

- **Targeted Intestinal Delivery** (more precise, localized action)
- **Precision, Disease-Specific Trials** (e.g., IBD, celiac disease, IBS)
- **Integrated Research** (intestinal barrier + microbiome + immune system)

MOST FEATURED PEPTIDES HAVE NOT BEEN PROVEN TO TREAT HUMAN IBD, CELIAC DISEASE, IBS, OR GENERAL GUT REPAIR.

Experimental results are not clinical recommendations. Educational only, not medical advice.