

Peptide World Congress 2023

SSRP Institute



Day 1 Main Stage

Cynthia Keller, MD – The Newest Peptides For Gut

Health

Key Concepts

- **Gut Microbiome & Dysbiosis:** Healthy gut flora is dominated by obligate anaerobes (e.g., Firmicutes, Bacteroidetes). Dysbiosis often results from increased facultative anaerobes (e.g., Proteobacteria), leading to health problems.
- **Butyrate Function:** A short-chain fatty acid essential for colonocyte energy, immune regulation, and intestinal barrier integrity. Best delivered via targeted prodrugs (Tributyryn) or rectally.
- **Zonulin & GI Permeability:** Zonulin modulates tight junctions in the intestinal lining; overexpression leads to increased gut permeability and systemic inflammation.
- **LPS & Systemic Illness:** Lipopolysaccharides (LPS) from gram-negative bacteria enter the bloodstream through a leaky gut, triggering systemic immune responses.
- **Larazotide:** An orally administered peptide that antagonizes zonulin receptors, reducing gut permeability. Shows potential in treating systemic illnesses linked to GI dysfunction.



Day 1 Main Stage

Cynthia Keller, MD – The Newest Peptides For Gut

Health

Clinical Relevance

- **Larazotide in Practice:** Effective in reducing zonulin-mediated gut permeability, with downstream effects on autoimmune and inflammatory diseases.
- **Conditions Addressed:**
 - **Eczema:** Linked to GI inflammation and improved with larazotide and microbiome support.
 - **Type 1 Diabetes:** Larazotide may reduce autoantibody production, suggesting potential to delay or prevent disease progression.
 - **PANDAS:** Larazotide helped reduce neuropsychiatric flares in pediatric autoimmune disorders.
- **Prescribing Tips:**
 - Typical dose: 500 mcg BID or TID.
 - Use in GI disorders with systemic manifestations.
 - Safe in both adults and pediatric patients.

Peptide World Congress 2023

SSRP Institute



Day 1 Main Stage

Cynthia Keller, MD – The Newest Peptides For Gut

Health

Practical Takeaways for Students

- Recognize gut integrity as a key player in systemic health.
- Understand how zonulin and LPS mediate disease through intestinal permeability.
- Learn the role of butyrate and how to optimize delivery methods for maximum efficacy.
- Be cautious with probiotics; effects may vary and colonization is not always beneficial.
- Use critical thinking ("Big Brain" moments) to assess therapy appropriateness and stay updated with emerging research.

Peptide World Congress 2023

SSRP Institute



Day 1 Main Stage

Cynthia Keller, MD – The Newest Peptides For Gut

Health

Reflection Questions

1. What role does zonulin play in gastrointestinal and systemic diseases?
2. Why is butyrate essential for colonocyte function, and what are the preferred delivery methods?
3. How does larazotide work, and what conditions may benefit from its use?
4. What are the potential consequences of improper probiotic use according to recent research?
5. Describe one clinical example where larazotide showed measurable improvement in patient outcomes.



Day 1 Main Stage

Cynthia Keller, MD – The Newest Peptides For Gut

Health

Reflection Question Answers

1. Zonulin regulates tight junctions in the intestinal lining; overproduction leads to increased permeability and systemic immune activation.
2. Butyrate supports colonocyte energy metabolism and immune regulation. Preferably delivered as Tributyrin orally or rectally via suppositories.
3. Larazotide blocks zonulin receptors, reducing gut permeability and inflammation. It may help with conditions like eczema, type 1 diabetes, and PANDAS.
4. Some probiotics may inhibit native microbiota reestablishment and delay recovery, with colonization persisting months after cessation.
5. A toddler with severe eczema improved significantly using larazotide, prebiotics, and antibiotics—demonstrating the gut-skin axis in action.