# ButiPEARL® Z

## Delivering butyric acid and zinc to the gastrointestinal (GI) tract

**ButiPEARL® Z combines two unique and powerful molecules — butyric acid and zinc — to help improve intestinal integrity allowing for improved nutrient absorption in poultry. The proprietary MicroPEARLS™ encapsulation technology behind ButiPEARL Z allows for molecule release throughout the animal's GI tract.**

### IMPACT OF INTESTINAL DISEASES

- Damaged mucus layer
- Breakdown of tight junction proteins between epithelial cells
- Microbiota dysbiosis/imbalance
- Oxidative stress
- Decreased feed intake
- Reduced production performance

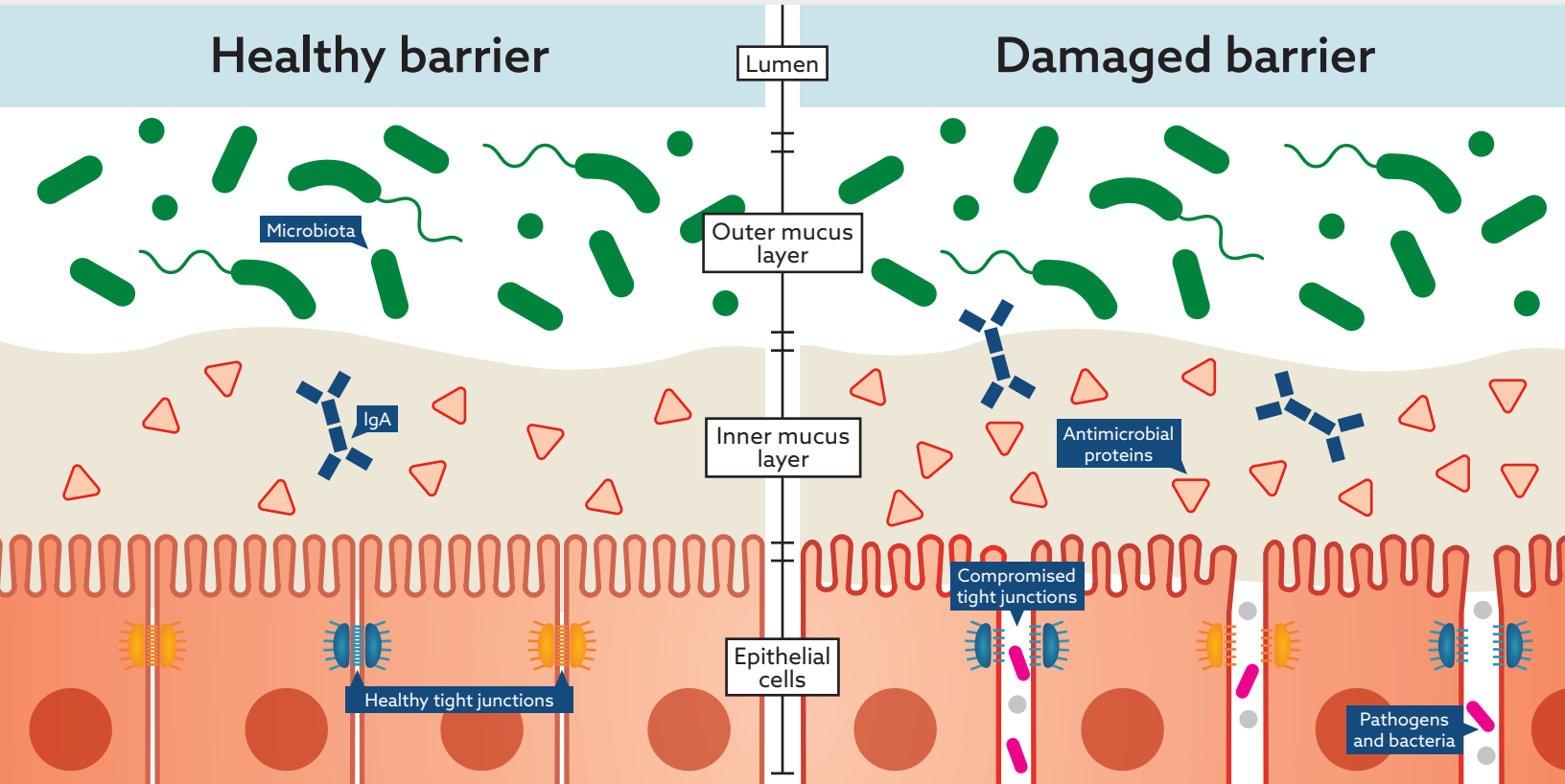
**Benefits of butyric acid:**

- Upregulates the expression of tight junction proteins[1,2]
- Increases host defense peptides[3]
- Reduces inflammation[3]
- Increases epithelial cell proliferation[4]

**Benefits of zinc:**

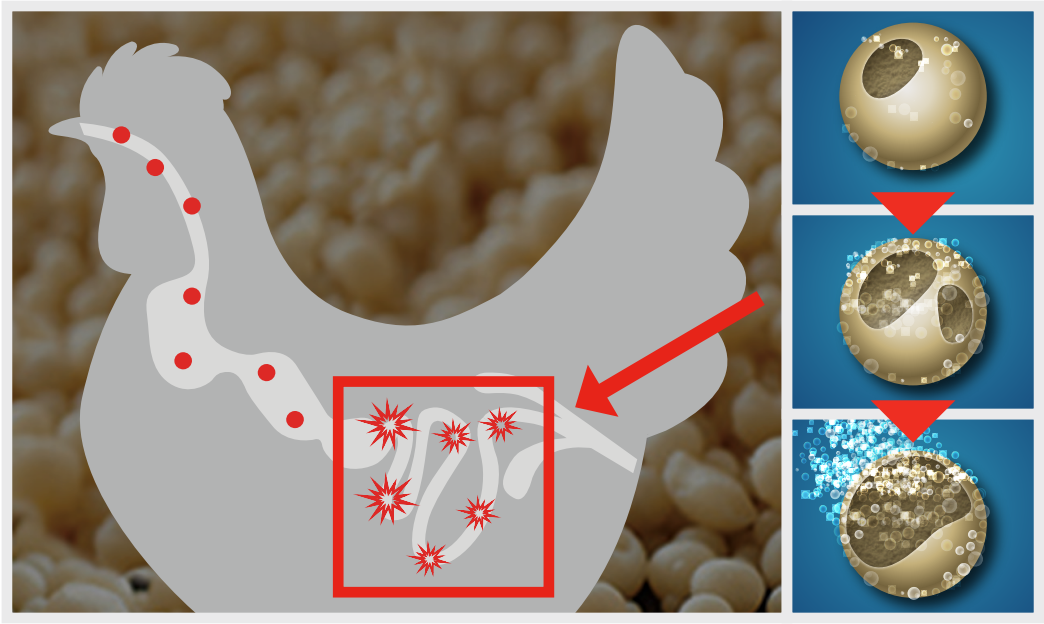
- Upregulates the expression of tight junction proteins[5]
- Increases microbial diversity in the intestines[6]
- Helps with wound healing[6]

## Intestinal lumen



# How does ButiPEARL Z release in the intestine?

Particles of butyric acid salt and zinc are embedded in the pearl matrix during the encapsulation process. As the pearl moves down the small intestine, targeted quantities of zinc and butyric acid are released and readily absorbed by the epithelial cells. **This unique encapsulation technology helps the availability of butyric acid and zinc along the small intestine.**



## OUR COMMITMENT TO QUALITY AND FOOD SAFETY

Kemin certified its Des Moines, Iowa, facility to the Food Safety System Certification (FSSC) 22000. FSSC 22000 is recognized by the GFSI as a rigorous food safety management system. The certification covers the manufacturing of food ingredients used in further processing and is designed to deliver greater confidence in food, fewer health risks, lower auditing costs, improved protection for brands and improved supply chain management.


ButiPEARL Z is manufactured at the Kemin facility in Des Moines, Iowa.

Learn more about ButiPEARL Z today!
**kemin.com/butipearlz**

REFERENCES
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3 Guilloteau, P., et al. (2010) From the gut to the peripheral tissues: the multiple effects of butyrate. Nutrition Research Reviews. 23:366-384.
4 Kotunia, A., et al. (2004, July). Effect of sodium butyrate on the small intestine development in neonatal piglets fed [correction of feed] by artificial sow. Journal of Physiology and Pharmacology. 55(2):59-68.
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KEMIN®
Compelled by Curiosity™

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