

ButiPEARL™ Z

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

ButiPEARL® Z combines two powerful molecules — butyric acid and zinc — to help improve intestinal health and performance in swine and poultry. The proprietary MicroPEARLS® encapsulation technology behind ButiPEARL Z allows for slow release throughout the animal's upper and lower GI tract. Encapsulation also allows for superior handling by reducing odor and dust.

BUTYRIC ACID

As an integral short-chain fatty acid (SCFA), butyric acid can provide multiple benefits to livestock and poultry through growth and development of the intestinal epithelium.

Benefits of butyric acid:

- Upregulates the expression of tight junction proteins in the intestines^{1,2}
- Increases antioxidant levels to promote healing in the GI tract²
- Increases epithelial proliferation³
- Increases host defense peptides⁴
- Reduces inflammation⁴

ZINC

Zinc is an essential nutrient and performs a pivotal role in many key biological processes affecting the health and performance of production animals.

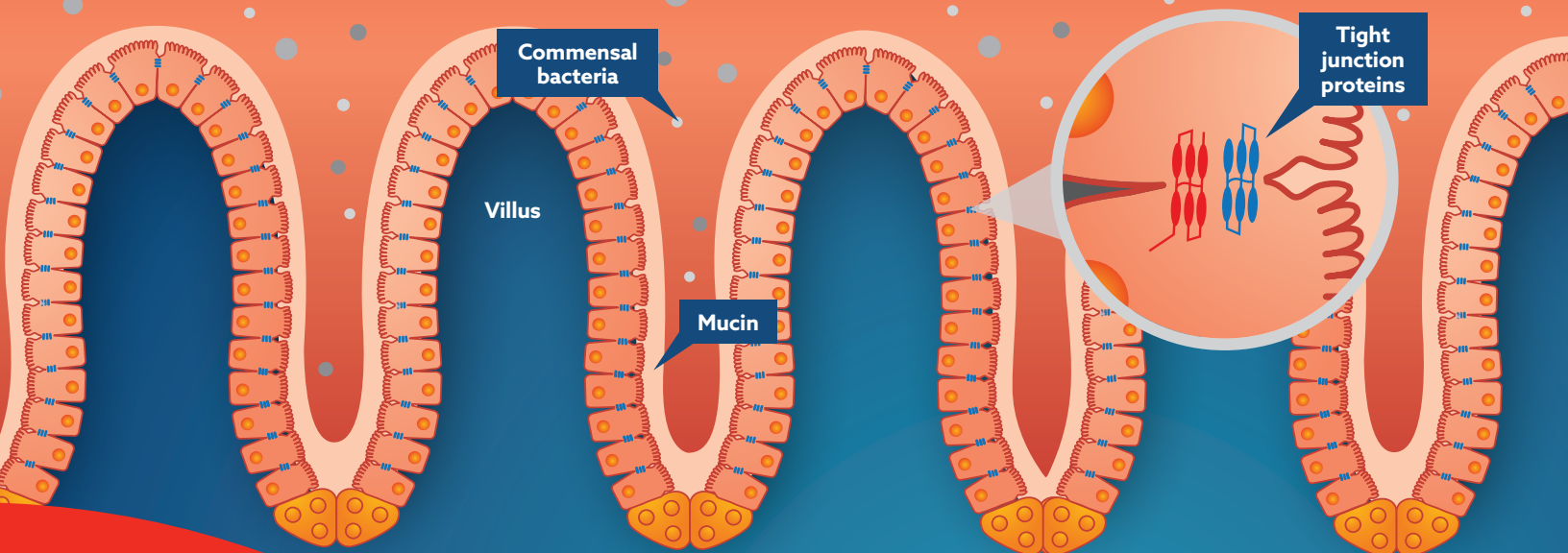
Key roles of zinc:

- Structural role in DNA replication⁵
- Cofactor for metabolic enzymes⁶
- Cofactor for wound healing enzymes⁷
- T-cell development⁸
- Cofactor for antioxidants⁹

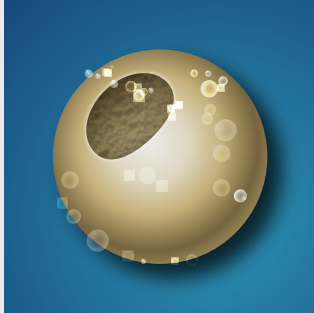
Benefits of zinc:

- Increases microbial diversity in the intestines¹⁰
- Upregulates the expression of tight junction proteins¹¹

Intestinal lumen

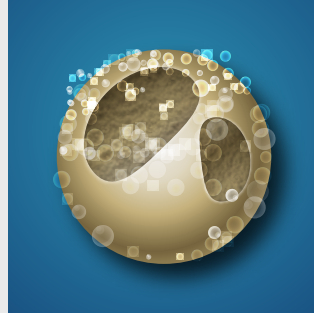


How does ButiPEARL Z release in the intestine?



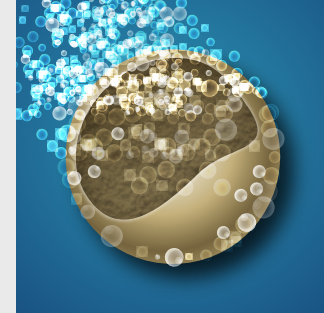
1 Foregut

Particles of butyric acid salt and zinc are embedded in the pearl matrix during the manufacturing process. Particles are released in the presence of an aqueous environment, leaving holes in the pearl exterior.



2 Midgut

Liquid enters through exterior holes in the pearl and comes in contact with more particles of butyric acid and zinc. These particles are then released, leaving new holes, as liquid contacts them. In the end, the pearls look like empty shells.



3 Hindgut

The released material disassociates into butyric acid and zinc. The butyric acid and zinc can be readily absorbed by the epithelial cells of the intestinal tract.

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.

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