



PolyTransport[™] Technology

Proprietary polysaccharide complexation for optimized trace mineral bioavailability.

SQM protected mineralsTM

Feed less, get moreTM

Higher bioavailability means you can feed less minerals (and waste less!), which helps you to streamline costs while increasing flexibility in your nutritional program.

Our TraceTraxTM process ensures high quality at every step—from ingredient sourcing to manufacturing to packaging to delivery.

OPTIMIZED PERFORMANCE

LOWER INCLUSION RATES

PROVEN BIOAVAILABILITY
(PolyTransportTM technology)

SUPERIOR QUALITY & ENGINEERING
(TraceTraxTM)

SQM PROTECTED MINERALSTM

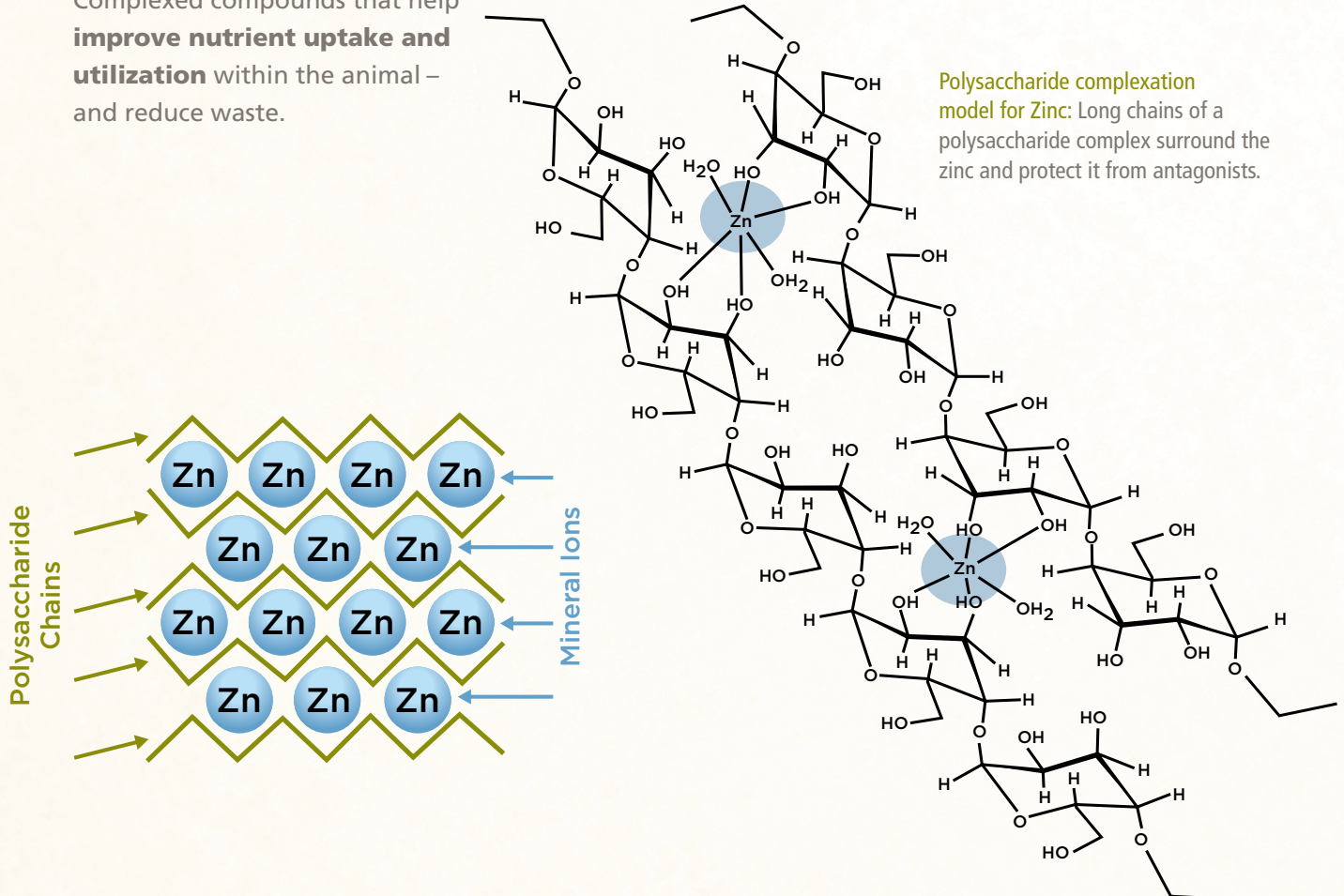
It all adds up to a strategy designed to **optimize animal performance** in every metric—from feed efficiency to meat quality, from immunity to reproduction, from environmental impact to bottom-line profitability.

QualiTech's proprietary PolyTransportTM technology provides improved bioavailability of trace minerals by ensuring they stay protected until they are ready for absorption.

SQM protected mineralsTM serve as the very foundation for optimized animal performance, providing essential trace minerals via a unique technology that ensures superior bioavailability.

SQM protected minerals with PolyTransport™ Technology: Delivering on the promise to Feed Less, Get More.™

- SQM protected minerals™ from QualiTech are powered by PolyTransport™ Technology, the **only complexed polysaccharide delivery system** for organic trace minerals in the industry. This unique technology improves mineral bioavailability relative to inorganics and, thus, helps support animal performance in a number of important ways.
- PolyTransport™ Technology is made possible through a **proprietary complexation process** in which polysaccharides are reacted with specific ionized nutrients. The result: Complexed compounds that help **improve nutrient uptake and utilization** within the animal – and reduce waste.
- SQM protected minerals™ are **shielded from antagonists** until they reach the optimal site of absorption within the animal. At that point, the polysaccharide complex is broken down by the digestive enzymes and the minerals are released. The polysaccharide compounds can also be used as an **energy source** by the animal.
- SQM's PolyTransport™ Technology is compatible with the **natural physiology** of the animals being fed – providing effective mineral supplementation and utilization for **optimized performance**.



PolyTransport™ Technology: Improved bioavailability for optimized results.

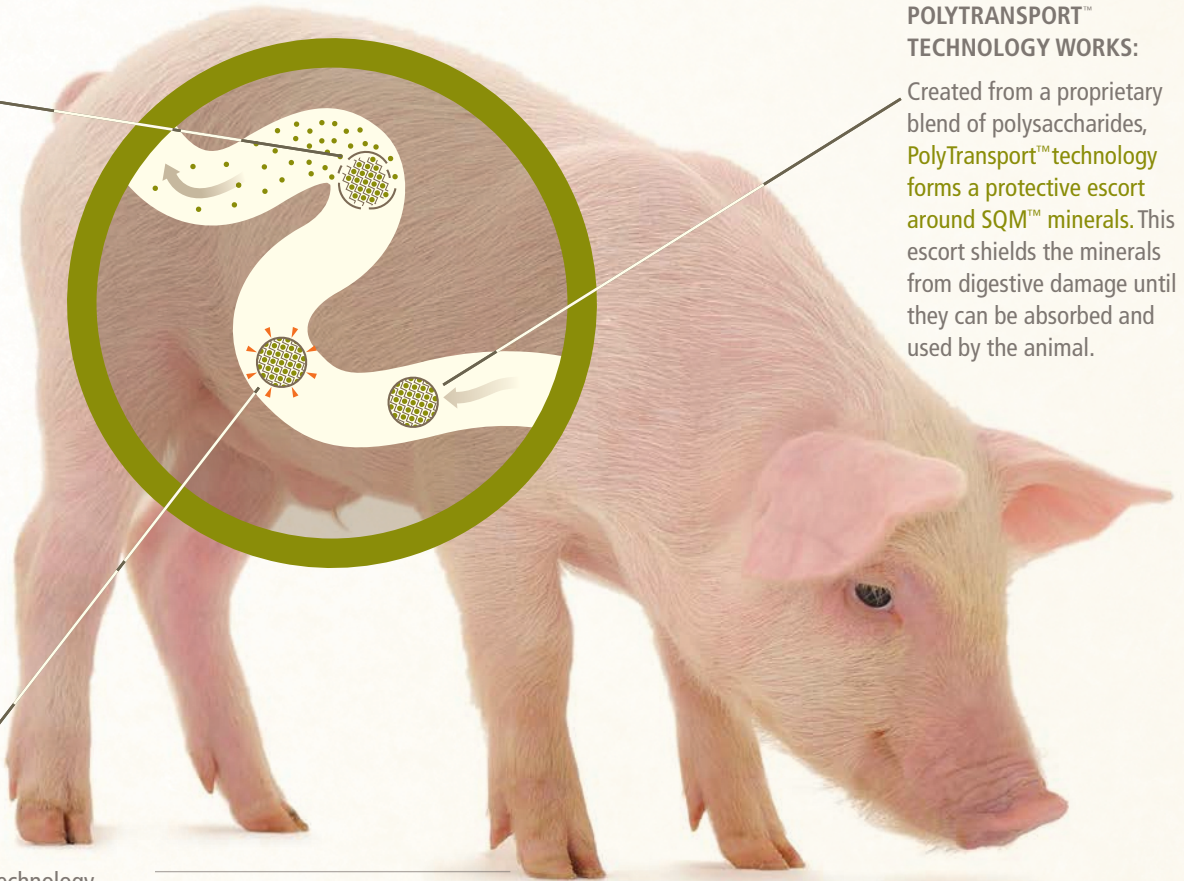
The structural model for PolyTransport™ technology is a key differentiator for SQM protected minerals™. Unlike chelation, PolyTransport™ Technology is based on **polysaccharide complexation** – and that’s what truly sets it apart from other delivery systems for organic trace minerals.

Through this unique technology, polysaccharide chains collapse onto a **protective matrix** – effectively shielding minerals from antagonists.

When the polysaccharide complex reaches the point of absorption, this **matrix is broken down** by intestinal enzymes – releasing the minerals.

The minerals are absorbed to the bloodstream and transferred to **physiologically relevant action sites**, while the polysaccharide (carbohydrate) complex can be used by the animal for energy.

Improved mineral bioavailability means less waste in the environment. That means more of your investment in trace minerals stays on the job in the pig where it belongs.



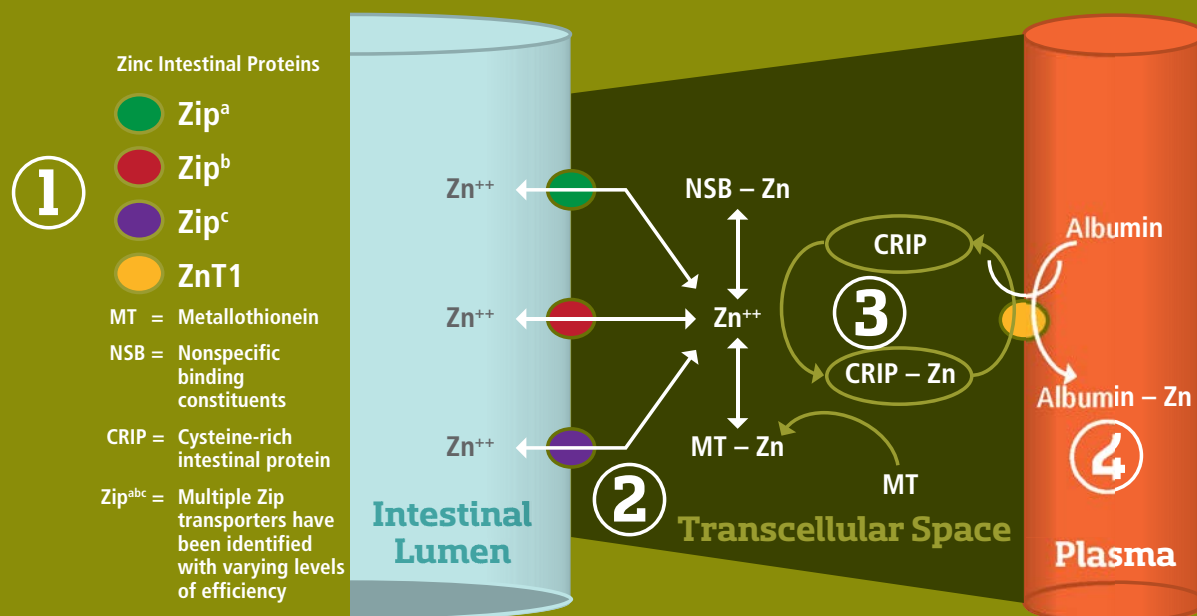
HERE'S HOW SQM'S™ POLYTRANSPORT™ TECHNOLOGY WORKS:

Created from a proprietary blend of polysaccharides, PolyTransport™ technology forms a protective escort around SQM™ minerals. This escort shields the minerals from digestive damage until they can be absorbed and used by the animal.

Thanks to PolyTransport™ technology, SQM protected minerals™ are shielded from damaging antagonists that can prevent or hamper absorption of minerals and diminish their benefits.

-  SQM PROTECTED MINERALS™
- RELEASED MINERAL
- ▶ ANTAGONISTS

Theoretical model for transcellular zinc absorption



1 The zinc intestinal protein (ZIP 4) pulls the zinc ion across the intestinal lumen to the transcellular space of intestinal epithelial cells.

2 Inside the transcellular space, one of two things can occur: either a nonspecific binding constituent takes hold of the zinc ion; or the metallothionein attaches to it and keeps the zinc ion in the transcellular space.

3 When there is a demand for it, the zinc from the metallothionein interacts with the cysteine-rich intestinal protein (CRIP), facilitating its transfer into the plasma through the zinc transport protein (ZnT1).

4 In the plasma, the zinc ion attaches to albumin for delivery to peripheral tissues.

The majority of dietary zinc is absorbed through the active transport system. If there is not a demand for zinc, the mineral is shed or sloughed out of the body.

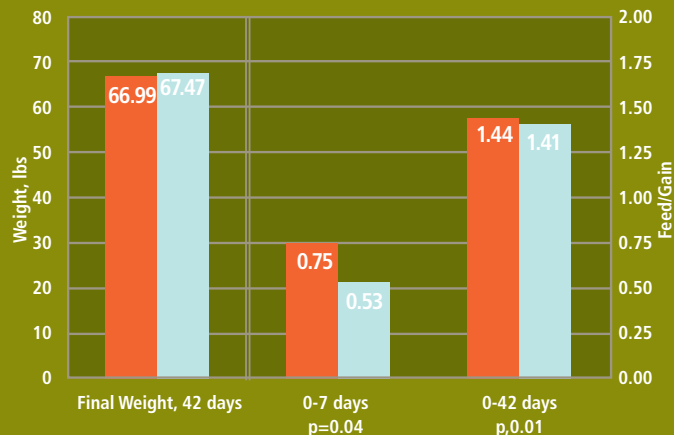
This model illustrates the critical importance of mineral bioavailability. PolyTransport™ technology ensures that SQM™ minerals are protected from antagonists until they reach the site of absorption. At that point, the protective polysaccharide complex breaks down and the minerals are readily available to the animal, thus helping optimize overall health and performance.

The proof is in the performance.

A study conducted at Carthage Research Center evaluated inorganic zinc vs. SQM™ zinc at different stages in the diet of baby pigs. This graph shows the influence of dietary zinc level on final weight and feed efficiency.



Influence of SQM Zinc compared to inorganic zinc on baby pig performance

SQM™ 
 INORGANIC 



A study conducted at AHPharma Research Center evaluated inorganic minerals vs. SQM™ protected minerals at different levels and at different stages in the diet of baby pigs. This graph shows the influence of dietary SQM™ protected minerals on feed conversion.

Performance of baby pigs receiving diets containing inorganic or SQM trace minerals

CONTROL 
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 100 