

# ProValerin<sup>™</sup>

The Mono-Acid Choice for Clostridia



**NetB  
toxin**

**Intestinal  
Tight Junction  
Proteins**

**Villi  
Length &  
Surface  
Area**

**GLP2  
Hormone**

**Necrotic  
Enteritis**



# ProValerin™

## The Mono-Acid Choice for Clostridia

Provalerin is an esterified organic acid with 5 carbon atoms. The valeric acid is produced naturally in minute quantity by Oscilobactor genus in the hind gut specifically in Cecum.

C perfringens is a spore forming, Gram '+', anaerobic bacteria which produces variety of toxins. It is noted that it produces 16-17 types of toxins. In poultry, alpha toxin was thought to be responsible for Necrotic Enteritis but with several reports it has been established that pore forming NetB toxins alone can cause Necrotic Enteritis ( Keyburn et al., 2008, 2010; Van Immerseel et al., 2009). NetB toxin is a member of Beta Barrel pore forming toxin family and is produced by C. perfringens type A strains. NetB toxin is cytotoxic for avian cells and produces lesions of the gut wall as seen in necrotic enteritis.

### How ProValerin Acts :

1. Provalerin offers protection against the damaging effects of NetB toxins on the gut surface cells – Enterocytes (important in absorption of Nutrients from feed)
2. Provalerin increases number of L cells (density) in the crypt of the epithelium. L cells produce GLP2 a signaling molecule (Gut Hormone) having important role in production & differentiation of cells on the surface of the crypt that form the villi.  
GLP2 has intestinotrophic actions on SI. It increases expression of intestinal tight junction proteins (Cani et al., 2009) & improves innate immunity by controlling the expression of antimicrobial peptides which maintains the gut barrier function (Lee et al., 2012)
3. Provalerin stimulates the growth of the important villus cells to increase the surface area of the birds intestine
4. Provalerin also suppresses the expression of gut damaging NetB toxin.

### BENEFITS

- Reduces incidence of Necrotic Enteritis
- Reduces NE lesion score – less severe gut damage
- Improves Villus height to Crypt depth Ratio – Gut morphology
- Improves FCR & body weight
- Improves broiler gut health & performance
- Provalerin promotes energy harvest in the Gut
- Intestinotrophic & gut barrier stabilizing effects result in protection against subclinical NE

### DOSAGE

- Prevention :  
1 Kg/ Ton of feed – Positive effect on body weight gains
- Treatment :  
1.5 kg/Ton of feed –  
Reduces NE lesion score

**PRESENTATION : 25 KG**

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### NUTRIDIAN ANIMAL HEALTH

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