



**INNATE IMMUNITY,
YOUR WAY!!**



Innatè

MORE THAN 98 % OF THE LIVING SPECIES IN THE WORLD ARE KNOWN TO SURVIVE ONLY WITH AN INNATE IMMUNE SYSTEM, UNLIKE THE VERTEBRATE ANIMALS THAT HAVE THE SPECIALIZED ADAPTIVE IMMUNE SYSTEM.

Innate immunity is the bird's first line of immune defence against a wide variety of pathogens. Responses of the innate immune system are 'non-specific' and do not distinguish between invaders but respond to features that are common to many types of pathogens.

The innate immune system has several components that help provide the initial defence response. These are physical and chemical barriers blood proteins and cellular components.

Physical and chemical barriers, include the skin, the mucosal epithelium, and secretions of the gastric and respiratory tracts that help against possible infection. One specific blood protein called 'complement' is a serum protein that works in conjunction with antibodies to help identify certain target cells that ultimately lead to their destruction.

CELLS INVOLVED IN INNATE IMMUNITY:

- Dendritic cells, Mast cells, Macrophages, Natural killer cells, Neutrophils, Basophils & Eosinophils

PRR'S:

- Toll-like receptors (TLR)
- Nucleotide-binding oligomerization domain-like receptors (NLR)
- C-type lectin receptors (CLR)
- RIG-1 like receptors (RLR)

PAMP'S:

Glycans

- Lipoglycans such as lipopolysaccharide, outer membrane component of the gram bacteria
- Peptidoglycans such as bacterial muramyl dipeptide
- Beta-1,3-glucans from the cell wall of various fungi species

Proteins : Bacteria flagellin

Nucleic acids : RNA or DNA

ADAPTIVE IMMUNITY :

The second line of defense against non-specific pathogens is called adaptive immune response. The hallmark of the adaptive immune system is clonal expansion of lymphocytes i.e., T and B lymphocytes. Each individual T and B cell (cells of adaptive immunity) recognizes one specific part of a pathogen and undergoes clonal expansion before beginning effector functions and destroying the pathogen.

Lymphoid cells of the adaptive immune system (T and B cells) recognize pathogens through T cell receptors (TCR) or B cell receptors (BCR; i.e. surface antibodies). Each T and B cell has a homogenous set of TCR and BCR, respectively, with specificity to small molecular features of a complex antigen.

When an individual lymphoid cell recognizes its specific antigen, it undergoes clonal expansion and develops into different types of T helper cells, cytotoxic T cells, or antibody producing B cells.

INNATE IMMUNITY :

The first line of defense against non-self pathogens is the innate, or non-specific, immune response. The innate immune response consists of physical, chemical and cellular defenses against pathogens. The main purpose of the innate immune response is to immediately prevent the spread and movement of foreign pathogens throughout the body.

Unlike adaptive immunity, cells of the innate immune system recognize many different pathogens and begin containment and elimination of the infection within minutes to hours of first exposure. By keeping all importance of innate immunity, we come up with a very unique product that acts purely on innate immunity i.e., **INNATE.**

1st time in Asia,
QUADRAGEN introduces the product for
INNATE IMMUNITY



QUICK ACTION



COMPLETELY SAFE



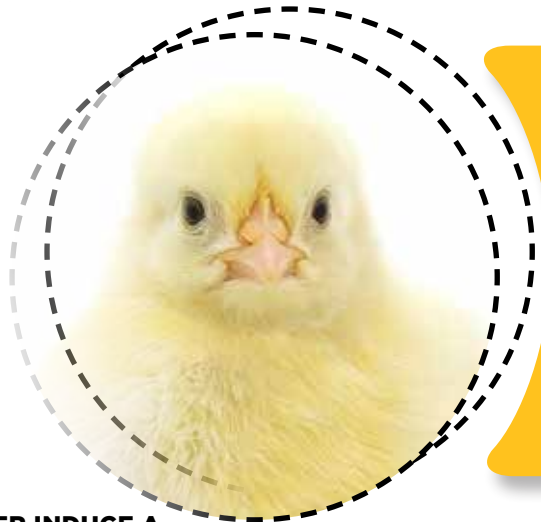
EASY TO USE



NO NEED OF REFRIGERATION



NEVER INDUCE A DISEASE PROCESS



INNATE with PAMPs similar to those found in the cell membrane of Salmonella, E. coli & Campylobacter



PAMPs are presented to the Peyer's patches system, activating mucosal protection system, IgA that impart local and systemic immunity

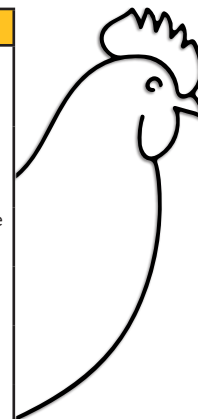


Increases nonspecific defense mechanisms through macrophages, dendritic cells, neutrophils, mast cells etc.



Phagocytosis of microorganisms

COMPOSITION	BENEFITS	USAGE
<ul style="list-style-type: none"> Specific PAMPs of E.Coli, Salmonella & Campylobacter 	<ul style="list-style-type: none"> Reduce enteropathogens like E Coli, Salmonella and Campylobacter 	<p>0.2 ml / bird in drinking water</p> <ul style="list-style-type: none"> Broilers: <ul style="list-style-type: none"> - 3rd & 4th day old - 14 & 15 days after first dose Layers & Breeders: <ul style="list-style-type: none"> - 3rd & 4th day old - 14th & 15th days after first dose - 16/20 week (2days) - 40 week (2days) <p>NOTE: DO NOT USE ALONG WITH THE ACIDIFIERS AND SANITIZERS</p>
	<ul style="list-style-type: none"> Tight junction integrity is maintained 	
	<ul style="list-style-type: none"> Stimulate GI development 	
PACKING	<ul style="list-style-type: none"> Change environment microbiota 	
<ul style="list-style-type: none"> 1 L 	<ul style="list-style-type: none"> Stimulate vaccinal response (Sal) 	
	<ul style="list-style-type: none"> Reduce antibiotic use 	



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