

<p>Introduction</p>	<p>Brand Name: Z-Sporlac Therapeutic Category: General Health & Immunity Elle Metchinkoff, a Zoologist, Biologist had a number of other credentials and won a Noble prize for his pioneering contribution on phagocytes. However his greatest contribution, is proposing a theory that gut bacteria that are capable of producing Lactic acid prolong life. How true he was that today a number of beneficial microbes known as probiotics, are being used to treat both acute and chronic disorders. Probiotics, also play a vital role, in a number of biochemical processes in the human body and also playing a role in immunostimulation. The use of probiotics, in treating various conditions, is the field of bio-therapeutics. [Synthesis of essential vitamins, absorption of minerals and trace elements, improving defence mechanisms of the body etc. that are important for maintaining good health]</p> <p>Zinc is known to play a central role in the immune system, and zinc-deficient persons experience increased susceptibility to a variety of pathogens. The immunologic mechanisms whereby zinc modulates increased susceptibility to infection have been studied for several decades. It is clear that zinc affects multiple aspects of the immune system, from the barrier of the skin to gene regulation within lymphocytes. Zinc is crucial for normal development and function of cells mediating nonspecific immunity such as neutrophils and natural killer cells. Zinc deficiency also affects development of acquired immunity by preventing both the outgrowth and certain functions of T lymphocytes such as activation, Th1 cytokine production, and B lymphocyte help. Likewise, B lymphocyte development and antibody production, particularly immunoglobulin G, is compromised. The macrophage, a pivotal cell in many immunologic functions, is adversely affected by zinc deficiencies, which can dysregulate intracellular killing, cytokine production, and phagocytosis. The effects of zinc on these key immunologic mediators is rooted in the myriad roles for zinc in basic cellular functions such as DNA replication, RNA transcription, cell division, and cell activation. Apoptosis is potentiated by zinc deficiency. Zinc also functions as an antioxidant and can stabilize membranes.</p> <p>Bacillus coagulans, maintains a symbiotic relationship, with the humans and plays a vital role in maintaining the gut flora, the metabolic secretions, such as bacetriosins, lactic acid plays a vital role in the controlling the growth of unwanted pathogens, and supporting the growth of Bifidobacterium in the colon, maintaining the membrane integrity of the gut. In addition to these functions, the microbial organism also maintains the intestinal immunity, not allowing the passage of pathogens across the intestinal barrier. The vital function played by B.coagulans, is the synthesis of vitamins especially the B-complex and also the absorption of minerals, vitamins and trace elements in normal states and states of altered function such as viral, bacterial or other states of altered immunity.</p> <p>Thus a combination of Zinc + Bacillus coagulans, plays a vital role in altered states of immunity, both in the adult and paediatric group, helping the body restore the normal physiological function. In addition, to immunity, the combination, is being used by Physicians in diarrhoea of varied aetiology as Zinc has been recommended by the WHO as an important trace element for quick control of diarrhoea. The combination can be safely used along with ORS.</p>
<p>Bacillus coagulans</p>	<p>Sporlac was the first probiotic containing Bacillus coagulans launched in India in the year 1974. Sporlac is considered to be most prescribed probiotic by the health practitioners which was expected to be sold by more than 4 million pharmacies (retail chemists) across India. Sporlac contains gram positive microorganism Bacillus coagulans (MTCC strain no: SNZ-1969) which is considered to have tremendous resistance against temperature upto 90°C and can survive in acidic environment upto pH-2 and could survive in 2% Bile. The formation of spores, help these bacilli withstand the acidic environment of the stomach to reach the intestine where they germinate and proliferate, producing the favoured L (+) optical isomer of lactic acid.</p> <p>Once active in the small intestine after germination, B. coagulans may aid in digestion of proteins and sugars from the diet. This may be beneficial to the host, especially in the case of lactose and fructose intolerance: once the sugars are digested in the upper gastro-intestinal (GI) tract, they will no longer cause the symptoms associated with the intolerance in the lower part of the gut, such as bloating, diarrhoea and other symptoms. B. coagulans is considered a transient colonizing probiotic, indicating it takes up only temporary residence in the human intestines. Spores of B. coagulans are excreted slowly via the feces for approximately seven days after discontinuation of administration</p>
<p>Clinical Benefits of B.Coagulans</p>	<p>Clinical Benefits of B coagulans in General Health & Immunity</p> <ol style="list-style-type: none"> Vitamin synthesis: some probiotics can synthesize various vitamins, largely of the B group Improved Gut function: an active gut flora helps to adequately digest the 60–80 g of food that enters the adult colon each day. Probiotics have a major role in carbohydrate degradation Immune Regulation: a stimulation of the non-specific immune response through non-pathogenic means helps improve resistance to infections Nutrient & Mineral Bio-availability - A reduced pH in the bowel because of lactic fermentation enables better sequestration of Calcium and Magnesium and other essential nutrients. An improvement in the absorption of essential nutrients and minerals has been observed
<p>Biochemical Functions of Zinc</p>	<p>Zinc is an essential nutrient in humans that is necessary for the function of a large number of metalloenzymes that participate in a number of biochemical reactions, in the body. Zinc also plays an essential role in the maintenance of nucleic acid structure of genes. Another important observation is that zinc deficiency has been associated with dermatitis, anorexia, growth retardation, poor wound healing, hypogonadism with impaired reproductive capacity, impaired immune function, and depressed mental function.</p>
<p>Zinc & Immunity</p>	<p>The trace element zinc is essential for growth and development of all organisms and the high rate of proliferation and differentiation of immune cells necessitate a constant supply with sufficient amounts of zinc. Zinc is known to play a central role in the immune system, and zinc-deficient persons experience increased susceptibility to a variety of pathogens. It is clear that zinc affects multiple aspects of the immune system, from the barrier function of the skin to gene regulation within lymphocytes. One major pathway that Zinc controls the immune system is by the signalling mechanisms. <i>Zinc deficiency in the Diabetics impairs zinc-dependent signalling, and thereby immune function.</i></p> <p>Zinc is crucial for normal development and function of cells mediating non-specific immunity such as neutrophils and natural killer cells. Zinc deficiency also affects development of acquired immunity by preventing both the outgrowth and certain functions of T lymphocytes such as activation of Th1 cytokine production, and B lymphocyte help. Likewise, B lymphocyte development and antibody production, particularly immunoglobulin G, is compromised. The macrophage, a pivotal cell in many immunologic functions, is adversely affected by zinc deficiency, which can dysregulate intracellular killing, cytokine production, and phagocytosis. Lymphopenia is common in zinc-deficient humans and animals and occurs in both the central and peripheral lymphoid tissues. Zinc deficiency results not only in decreased lymphocyte concentrations, but in depressed T and B lymphocyte function. With the onset and progression of Type 2 Diabetes, worsening of the immune status is a common observation, which is why diabetics often have delayed recovery periods from acute or chronic disease, and also delayed</p>

	wound healing, a manifestation of compromised immune status in Diabetics, a major concern for the Physicians. Zinc, supplementation is a must in both immunocompromised individuals due to acute or chronic disease and Type 2 Diabetes as both classes of patients are Zinc-deficient, affecting not only metabolic processes, but also the immune system. Zinc when used as per the daily recommended allowance, does not cause any adverse effect or undue toxicity.
Additional Information	<p>Warnings & Precautions: Since probiotics contain live microorganisms, there is a slight chance that these preparations might cause pathological infection, particularly in critically ill or severely immuno-compromised patients. Probiotics should also be used cautiously in patients taking immuno-suppressants, such as Cyclosporine, Tacrolimus, Azathioprine</p> <p>Interactions with other Medicaments Since probiotics contain live microorganisms, concurrent administration of antibiotics could kill a large number of the organisms, reducing the efficacy of the Lactobacillus and Bifidobacterium species. Patients should be instructed to separate administration of antibiotics from these bacteria-derived probiotics by at least two hours</p> <p>Pregnancy and Lactation Although the combination, is safe; the use of this formulation, is best avoided in pregnancy and lactation. The formulation may be used at the Physicians discretion</p>
Composition	Each Z-SPORLAC Sachet Contains: <ol style="list-style-type: none"> 1. Bacillus Coagulans -150 Million CFU 2. Zinc Sulphate [as Zinc Resinate] Equivalent .to Elemental Zinc -10 mg
Dosage	<ol style="list-style-type: none"> 1. 1 – 2 Sachets twice a day , can be continued for a span of 14 days in severe infections 2. In case of Diarrhea 1 – 2 Sachets twice a day, with ORS (Oral Re hydration Solution)
Storage	The box containing the sachets of Z-Sporlac, must be stored in a cool dry place away sunlight and out of the reach of children
Presentation	Each pack contains 4 individual doses of 1 gm sachet. Each carton contains 25 packs.

