Introduction of my Dissertation

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Immunostimulants also called as immunostimulators are the substances that are required to stimulate the immune system. Although they are known for more than a century yet their working mechanism is fully explained recently owing to the progress in the field of immunology and microbiology. Immunostimulants activates innate immunity referred to as the defense mechanism that works immediately after the appearance of an antigen in the body. It also support the release of endogenous immune mediators that aids in the treatments of several chronic diseases or cancer, etc (Finlay & Hancock, 2004). In the year 1890 Dr. William Coley, a renowned surgeon at New York Memorial hospital utilizes killed streptococcus pyogenes and serratia marcescens for the the treatment of lymphomas, melanomas and myelomas, etc. The origin of this combination was from the observation about the regression of tumors with respect to the occurrence of acute infections such as high fevers (Starnes, 1992). Initially Coley and other researchers were using live bacteria however due to the fatal infection caused by these induced bacteria was the major reason that led to the use of inactivated organisms. After the success of using inactive organisms several other microbial substances were clinically approved to be used in the treatments of gastric cancer, bladder cancer and etc. However, the use or immunostimulants to increase immunity in humans was recognized almost after two decades.

In the year 1952, Ramon observed that giving diphtheria toxoid with the combination of starch, fish oils and several plants extract can enhance the response of antibodies towards the toxoid in the horses. Following this after an year Glenny also observed the same effect with Alum due to which Alum was used as an adjuvant in variety of vaccines in fact not only Alum several other aluminum salts are widely used. Also, the use of starch and fish oil as an adjuvant has been used in vaccines in the form of insulin and squalene.

**References**

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Starnes, C. O. (1992). Coley's toxins in perspective.

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