# Conjugation Polyribosylribitol Phosphate of Haemophilus Influenzae Type B With KLH Protein and PLGA Nanoparticles Enhances Its Phagocytosis Rate

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**Background & Objectives:** Today, nano-materials are the most widely used Methods of making modern medicine. These materials are very useful in increasing the accessibility of drugs to target and destroy cancer lineages. polyribosylribitol phosphate (PRP) of *Haemophilus influenzae* type b have been used as a vaccine against Haemophilus meningitis for many year(1, 2).

**Methods:** In this study, *Haemophilus influenzae* PRP were conjugated to Keyhole Limpet Hemocyanin (KLH) (a powerful immunogen molecule) and a nanoparticle with high adsorption called Poly Lactic Co-Glycolic Acid (PLGA). Than Immune cell uptake assay was used for measurement percent of cell entering of antigen. In this Methods, poly morphonuclear immune cells in the presence of the fluorescent substance were reacted with PRP-KLH-PLGA, PRP-KLH and PRP-T (as a positive control) antigens. Than percent of cell entering of these antigens was detected by Immune cell uptake assay device. The results of this test were evaluated by flow cytometric techniques.

**Results:** Results indicate a significant increase in phagocytosis of three part antigen contains PLGA nanoparticle is compared to other antigens. These results occur because small size, higher absorbs ability and more hydrophilic property of PLGA on the surface of the membrane, then phagocytosis of three-part antigen increased compared with the PRP-T, so provides stronger Immunization.

**Conclusion:** Therefore conjugated antigen can be more powerful vaccine against Haemophilus meningitis.

**Keywords:** *Haemophilus influenzae*; Meningitis; KLH; PLGA; Immune Cell Uptake Assay