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Design of multifunctional nanoparticles targeting TLR or Nod receptors for dendritic cell immune therapy (iNanoDCs)

Currently, the most promising cell therapy candidates are dendritic cells (DCs), the immune sentinels of the body that orchestrate innate and adaptive immune system. Optimal education of DCs can be achieved by ex vivo loading of DCs with antigens - a laborious and expensive procedure. In order to avoid this step, the iNanoDCs project aims to develop multi-functional poly(lactic acid) nanoparticles that will assume control over intracellular DC processes and increase antigen presentation properties of DCs. This will be done by encapsulating within the nanoparticles molecules that affect the intracellular machinery and by decorating the particles with specific viral proteins.

