

# CALL FOR PAPERS

Current immunotherapies for complex diseases, such as autoimmunity or cancer, usually rely on the use of nonspecific approaches. Such immunomodulatory strategies have shown some efficacy, albeit transient and not devoid of side-effects, such as systemic immunosuppression. Antigen-specific immunotherapies have greater specificity, lower toxicity, and a longer-term protection. However, several challenges remain in order to improve their clinical applicability. Among others, the efficient delivery of antigens to elicit the adequate immune responses (immunogenic or immunosuppressive) and the translation from animal model to patients remain milestones pending to be overcome.

Recent advances in nanotechnology have proven that nanocarriers, among them, organic nanoparticles (NPs) such as micelles, liposomes, virosomes, exosomes, virus-like particles (VLPs), or dendrimers, and inorganic NPs such as gold nanoparticles, quantum dots, iron oxide, magnetic, plasmonic, or radioactive nanoparticles, are capable of diagnosis, drug delivery, and monitoring of therapeutic response for disease prevention and treatment. In addition, improvements in pharmacokinetics and standardization of synthesis procedures will improve the ability to translate these experimental approaches into clinic.

We invite investigators to contribute original research articles as well as review articles that will altogether contribute in a special issue of this journal on nanoparticles and immunotherapies.

Potential topics include but are not limited to the following:

- ▶ Fields of biochemistry, biophysics, immunology, cancer, autoimmunity, and allergy
- ▶ Development and testing of new synthetic/organic or inorganic nanoparticles for immunotherapy in mouse models or ex vivo models, explant organs
- ▶ Development of new techniques to detect, follow, and monitor the effects of nanoparticles on immune cells in human PBMCs or mouse blood and targeted organs: labelling nanoparticles, tracing nanoparticles, and so on
- ▶ Comparison of the effects of nanoparticles (uptake by dendritic cell subpopulations, effect in T cells subpopulations), on human PBMCs or mouse blood and organs, depending on the routes of delivery (subcutaneously, intravenously, intramuscularly, orally, etc.) to optimize therapeutic strategies using nanoparticles
- ▶ Development of new immunotherapeutic strategies using nanoparticles to prevent and treat disease
- ▶ Identifying biomarkers of cells targeted by the nanoparticles (i.e., surface Ig, Ig receptor, costimulation receptors, activation marker, anergic marker, and differential enzyme/transcription factor expression)
- ▶ Theranostics—development of hybrid nanoparticles for simultaneous immunotherapy and diagnostic
- ▶ Microfluidic approaches for detection of biomarkers in immunosurveillance
- ▶ Progress is clinical translation of nanomedicine for immunotherapy: from bench to bedside

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jir/npim/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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