Tentative Outline
Special Issue for Recent Patents on Inflammation & Allergy Drug Discovery

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Advances in developing prophylactics and therapeutics to counter inflammatory, allergic and infectious diseases

Background: Allergy, Inflammation, Infectious diseases

Aims & Scope:
This thematic issue will provide a platform to share comprehensive information on advances and recent trends in developing effective prophylactics, vaccines and therapeutics to counter important allergic and inflammatory conditions as well as infectious pathogens. Presently more than 30% of the global population has been suffering from allergic/atopic diseases involving a cascade of immunological responses, resulting that may vary from mild inflammation to severe systemic anaphylactic conditions, with high incidence include allergic rhinitis due to inhalant allergens, asthma, atopic dermatitis, eczema, urticaria and food allergy. Also, there has been a steady rise in the infliction of several inflammatory conditions of acute and chronic nature due to several inducing factors, among human population as well as in pet animals especially canines and felines. Few of these are arthritis, inflammatory bowel disease, irritable bowel syndrome, urogenital disorders, cardiac problems, vesculitis, cellulitis and others. As most of the conventional therapeutic agents provide only symptomatic reliefs in such conditions, these agents are now running out of potent effects and there exists a great hue and cry for search of novel, potent and affordable therapies which can target the actual cause itself. Immunomodulators like cytokine agonists, signal pathway blockers, probiotics, heat shock proteins, nanomedicines, herbal modulators etc. are emerging as effective therapeutic as well as prophylactic candidates especially for immune dysfunction conditions. Vaccine therapy using the ideal antigen targets, combinational immunoadjuvants etc. as effective prophylactic therapy can be further exploited by incorporation of in-vitro transcribed synthetic mRNA. Novel drugs aiming at to prevent inflammatory conditions such as disease-modified agents of rheumatoid diseases (DMARDs) can be more effective by modifying into biological DMARDs with recombinant proteins. Immunomix is another emerging therapeutic strategy which uses the molecular signaling and receptor components of immune responses along with its biotechnological manipulations so as to apply in gene therapy. Targeted drug therapy using nanoparticles and recombinant antibodies especially humanised antibodies are also found to be effective in relieving inflammatory as well as autoimmune conditions by blocking the respective receptors.

Various human interventions and their consequences like globalization, climate changes, population explosion, changing lifestyle, public health insufficiencies, etc. have flared up several infectious diseases. Of these several emerging and re-emerging infectious diseases have created a challenge to human health due to increase in disease incidences and their devastating effects viz., Bird flu, Swine flu, Ebola, Zika, Severe Acute Respiratory Syndrome (SARS), Chikungunya, Dengu, Viral encephalitis (Japanese encephalitis, JE) etc. apart from other already haunting diseases like tuberculosis, malaria, brucellosis, glanders, rabies, anthrax, yellow fever. For countering these, advances in science have paved tools for developing effective, safer and novel vaccines inducing protective immune responses including of DNA vaccines, plant vaccines, reverse genetics based vaccines, virus like particles (VLP) and others. Different kinds of immunoadjuvants like Toll-like Receptor (TLR), and vaccine delivery systems are also now gaining importance. Various factors like side effects of chemical drugs and medicines, increasing scenario of antimicrobial resistant strains of pathogens, food safety concerns, flaring up of emerging and re-emerging infectious pathogens as well as increasing trends of diseases like diabetes, cardiovascular problems, rheumatoid arthritis, blood pressure etc have paved way to look towards developing and strengthening of novel, emerging and alternative / complementary upcoming therapeutics viz., phages, enzybiotics, avian egg antibodies, cytokines, toll like receptors, si-RNA, monoclonal antibodies, probiotics, nanomedicines, herbs, plant metabolities,
and many such others for exploiting their optimum beneficial applications and practical usages for safeguarding health of humans and their companion animals.

Hence in the present scenario, due focus need to be rendered for exploring and validating the wide potential of advanced prophylactics and therapeutic options by extending and strengthening more research and clinical trials in such areas. The present thematic issue compilation will be useful for medical and veterinary professionals, clinicians, researchers, students/scholars, public health experts, and pharmaceutical industry in designing and adapting effective and safer prophylactics, vaccines and therapeutics, drugs/medicines, immunomodulators, nutraceuticals from clinics to the laboratory for countering allergic, inflammatory and infectious diseases with an aim to safeguard health of both humans and animals in a better way. This thematic issue will accept submissions of review papers on above mentioned topics / theme with their basics, modes of action, medicinal values, beneficial health applications, modern trends and advances and perspectives.

**Keywords:**
Allergy, Inflammation, Infectious diseases, Prohylactics, therapeutics, alternate / complementary therapeutics, drugs, medicines, drug delivery, vaccines, immunomodulators, pharmaceuticals, animals, humans

**Subtopics:**
- Subtopics in relation to advances in developing prophylactics and therapeutics for countering inflammatory, allergic and infectious diseases will include:
  - Upcoming and emerging therapeutics options
  - Advanced immunomodulatory approaches
  - Advances in prophylaxis and prevention
  - Vaccination approaches, modern vaccines and vaccines based therapies.
  - Novel drugs, medicines and drug delivery methods
  - Advances in drug designing, new generation medicines and novel drug delivery methods.

**Tentative issue submission date:**

Manuscript submission deadline: May 2018 Peer Review Due: March 2018 Revision Due: March 2018 Notification of acceptance by the Guest Editor: April 2018 Final manuscripts publication: June 2018