

Tentative Outline

Special Issue for Current Pharmaceutical Biotechnology

TITLE of the thematic issue:

Nanotechnology and their impact on vascular tissue: A double edged sword

Guest Editors:

Dr. Arun K. Sharma

Aims & Scope:

Endothelial is the inner most layer of blood vessels and maintain the homeostasis in vascular system. The imbalance or damage in vascular lining leads to vascular endothelial dysfunction (VED) which is one of fatal pathological condition and considered as a hallmark for cardiovascular and renal diseases. Most of the targeted therapeutic agents including nano-formulations directly or indirectly hit this most vital organ system. Moreover, advanced drug delivery associated with either natural or synthetic therapeutic agents have their individual impact on vascular derived factors. VED is characterized by imbalance between endothelium-derived vasodilator and vasoconstrictor factors. Reduced endothelial nitric oxide synthase (eNOS) activation, decreased nitric oxide (NO) production and its bioavailability, eNOS uncoupling and increased oxidative stress in the vessel wall are the prime root cause of VED. Instead of various natural and synthetic therapeutic agents, metal nanoparticles have been widely applied in various fields of biomedical sciences because of their exceptional theranostic applications in treatment and diagnosis. Additionally, recent studies report that different nanoformulation may cause detrimental effect as well which limits the application of this novel class of treatment. Indeed, a high mortality rate is associated with vascular disorders, it creates a need of revisit the mechanistic insight of nano-formulation interaction with vascular tissue so that a novel and targeted therapeutic application may be investigated. I believe, current thematic issue will provide some interesting and promising scientific outcomes including expert review articles which open the new vista of therapeutic approach and highlight recent research developments.

Keywords:

Nano-formulations, Mechanistic insights, Vascular disorders, Advance drug delivery, Natural verse synthetic nano-medicine.

Subtopics:

The subtopics to be covered within this issue are listed below:

1. Possible interaction of Nano formulations to vascular tissue at molecular level
2. Mechanistic insight of nanotechnology against Vascular Complications
3. Comparative analysis of nano-formulations impact on vascular system: Friend or foe?
4. Advance drug delivery system to enhance the efficacy of nano drugs
5. Impact of nano-formulations obtained from natural versus synthetic resource on vascular tissues

Schedule:

- ✧ Manuscript submission deadline: July 10, 2020.
- ✧ Peer Review Due: September 10, 2020.
- ✧ Revision Due: October 10, 2020
- ✧ Announcement of acceptance by the Guest Editors: November 30, 2020.
- ✧ Final manuscripts due: December 20, 2020.

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Titles of the proposed papers

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Proposed titles: Grounds of vascular endothelial dysfunction

2. Dr Sunita Dahiya

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Proposed titles: **Nanocarrier for drug delivery system: An emerging area to revisit**

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Proposed titles: Possible interaction of nano/micro and target specific medicine with endothelium

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Proposed titles: Role of nanobiotechnology in regenerative biology

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Proposed titles: Emerging technologies on Nanomedicine and Nanotechnology

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Proposed titles: Smart Drug Delivery Technology and Impact on Vascular System

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Proposed titles: Nanomedicine in Theranostics

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Proposed titles: Nano Toxicology and Major challenges at Molecular Level

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Proposed titles: Nano medicine and nanotechnology are a key window for cardiovascular health: fact or fiction

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Proposed titles: Vascular Complications: Can metal nanoformulation illuminate the dark tunnel?

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Proposed titles: **Effect of metal nanoparticle in diabetic and associated vascular complications**