

Special Issue on Redox Biology of Infection and Consequent Disease

CALL FOR PAPERS

Bacteria and viruses account for a wide spectrum of communicable diseases. According to WHO statistics, they are responsible for 16% of deaths worldwide. Furthermore, they are responsible for severe morbidities, as after the initial infection, hundreds of millions develop chronic pathologies such as chronic hepatitis, cardiovascular, neurodegenerative, and autoimmune diseases. Some microbes are directly oncogenic, and some cause chronic inflammation predisposing to cancer, contributing to non-communicable disease-caused deaths.

Research carried out during the last two decades demonstrated that many of these infections trigger the production of reactive oxygen species (ROS) and reactive nitrogen species (RNS), which has previously been shown for viral hepatitis B, C, and D, human immunodeficiency virus (HIV-1), influenza A, Epstein-Barr virus, respiratory syncytial, rhino-, corona-, herpes, and papilloma viruses. There is increasing data on a role for oxidative stress in salmonellosis, tuberculosis, helicobacter, and pseudomonas infections. Enhanced ROS/RNS production has been implicated in diseases such as fibrosis, cirrhosis, metabolic dysfunction, lung tissue injury, and epithelial barrier dysfunction, which in turn increase the susceptibility to secondary infections. Oxidative stress induced in HIV infection contributes to neurodegenerative complications.

Significant progress has been achieved in this field during the past years. However, little is known about the interplay between the pathogens and oxidative stress reaction(s) of the host. In this special issue we would like to invite authors to submit original research and review articles on redox biology of infections and concomitant infection-associated pathologies. We also encourage submission of articles outside the field of infectious diseases that address any questions that have been neglected by microbiologists and that can promote research on the redox biology of infection.

Potential topics include but are not limited to the following:

- ▶ Mechanisms by which infections enhance ROS/RNS production
- ▶ Influence of ROS/RNS on pathogen replication/reproduction
- ▶ Effect of viruses and bacteria on the antioxidant systems of the host
- ▶ Role of ROS/RNS in the development of inflammation, neoplastic transformation, fibrosis, metabolic dysfunctions, and other pathogen-associated pathologies
- ▶ Redox-dependent posttranslational modifications of proteins of pathogens and host cell
- ▶ ROS/RNS and chemotherapy
- ▶ ROS/RNS as the organic part of the host immune defense against the microbes
- ▶ Reactive carbon and chlorine species as well as hydrogen sulfide in infection and consequent disease
- ▶ Identification of the redox switches employed by the microbes

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

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

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