

Special Issue

Toll-Like Receptors (TLRs), Activation in Immune Cells and Whole Organisms

Message from the Guest Editor

Toll-like receptors (TLRs), which are conserved throughout evolution, sense microbial products and play a critical role in innate and adaptive immunity. TLRs are synthesized in the endoplasmic reticulum and traffic either to the plasma membrane where they recognize the presence of proteins and lipids from a wide variety of pathogens or to endosomal-lysosomal organelles where they bind nucleic acids from bacteria or viruses. Once they interact with their specific ligands, they undergo conformational changes leading to the production of proinflammatory cytokines and cell surface expression of costimulatory molecules. TLRs genetic deficiency can lead to the development of inflammatory diseases, and their dysfunction can contribute to autoimmunity. However, despite our current knowledge, we still lack some understanding in the dynamic of TLRs activation. This Special Issue aims to provide an overview of the nature and biology of TLRs signalling, trafficking, and activation in immune cells and whole organisms.

Guest Editor

Dr. Benedicte Manoury

Institut Necker Enfants Malades, INSERM U1151- CNRS UMR 8253,
Faculté de Médecine Necker, 156-160 rue de vaugirard, 75015 Paris,
France

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Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences,
Sez-Biochimica, Faculty of Medicine, Università Politecnica delle
Marche, Via Ranieri 65, 60100 Ancona, Italy

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