Special Issue

Organoid Models in Host–Pathogen Interactions and Disease Pathogenesis

Message from the Guest Editor

This Special Issue aims to highlight recent advances in the use of organoid technology to study the pathogenesis of infectious diseases. Organoids, three-dimensional and self-organizing structures derived from stem cells, offer physiologically relevant platforms that closely mimic the architecture and cellular diversity of human tissues. These models have transformed our ability to investigate host–pathogen interactions at mucosal surfaces, in deep tissues, and within immune-privileged sites, providing insights unattainable with traditional 2D cultures or animal models. We welcome original research articles, reviews, and methods papers focused on how organoid systems are being applied to model bacterial, viral, fungal, and parasitic infections. Topics of interest include organoid-based studies of microbial invasion, immune response, tissue injury and repair, microbiota interactions, and antimicrobial or vaccine testing. Studies that integrate immune cells, use organoid-on-a-chip platforms, or develop multi-organoid co-cultures are particularly encouraged.

Guest Editor

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