

Special Issue

Pore-Forming Toxins: From Structure to Function

Message from the Guest Editor

While pore-forming toxins (PFTs) were first thought to lyse cells, the elaborate defense mechanisms of host cells has broadened their function, including by altering key signaling pathways. The mechanisms PFTs use to impact host cell signaling and function are driven by structural elements in the toxins and their interaction with both the membrane and host proteins, although many of these pathways remain unknown.

Understanding how PFTs alter cellular function in their target cells is critical to learning how to effectively target PFTs for therapy. While considerable progress has been made in this area, there remain key unknowns in several aspects of PFT structure and function. For example, what structural changes are needed for PFT function? How do host enzymes and factors impact PFT binding, oligomerization and pore formation? How and what signals are generated by PFT interactions with the membrane and receptors? What commonalities exist between PFTs from different classes and/or organisms? How do PFTs alter microbial communities? Finally, can we predict PFT structure and function from existing PFTs?

Guest Editor

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