

Special Issue

The Role of Integrins and Small GTPases in Health and Disease

Message from the Guest Editor

Small GTPases (e.g., RhoA, Rac, Cdc42) are critical for cytoskeletal rearrangements like filopodia formation during pathogen entry. Integrins activate Rac1/RhoA pathways, essential for cell adhesion and motility. As adhesion receptors, they mediate cell-matrix interactions, while small GTPases regulate processes like vesicular trafficking.

Integrin signaling via FAK, Src, and PI3K impacts viral replication. Rac1 drives early adhesion; RhoA aids late-stage adhesion maturation. Outside-in signaling (G13/small GTPases) enhances cell spreading. Viruses exploit small GTPases to remodel cytoskeletons for intracellular movement and replication, regulating particle transport and egress.

Pathogens like adenoviruses, SARS-CoV-2, and *Helicobacter pylori* use integrins for endocytic entry. Integrins also recruit leukocytes to inflammation sites, key for innate immunity. Integrins and small GTPases are central to infectious disease pathogenesis, influencing infection stages and offering therapeutic targets.

Guest Editor

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. *Cells* encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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