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Sommario/riassunto

Adaptation to external changes is necessary for all cells to survive and thrive in diverse environments. Key to these responses are the MAPK-mediated signaling pathways, intracellular communication routes that

sense stimuli at the cell surface, and are ubiquitous in all eukaryotic organisms. In the case of fungi, MAPKs mediate essential processes, such as adaptation to environmental stresses, morphology regulation, or developmental processes. First studied in the early nineties in *Saccharomyces cerevisiae*, the fungal cell wall integrity (CWI) pathway has proven to be a central MAPK-mediated signaling cascade conserved in the fungal kingdom. Cells need to sense cell wall-perturbing conditions and mount the appropriate salvage response. Understanding this CWI pathway-mediated compensatory mechanism is key for the development of cell wall-targeted antifungal therapies. Moreover, its functional roles go beyond the maintenance of this essential structure, reaching many other physiological aspects that have major implications in development or virulence. In this Special Issue, expert researchers in this relevant subject have contributed with seven reviews and eleven original articles to advance our understanding of the CWI pathway by covering different structural, regulatory, and functional aspects in distinct yeasts and filamentous fungi.
