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A novel strategy for treatment of immune-related disorders by using cytoskeleton regulating signals as targets

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ABSTRACT

Remodeling of the actin cytoskeleton regulates many cellular functions in the immune system. The CDM family of proteins, evolutionarily conserved guanine nucleotide exchange factors, induce cytoskeletal reorganization by functioning downstream of various receptors. In this study, we will analyze comprehensively the structure, function and signal transduction of the CDM family proteins to identify chemical or natural compounds that inhibit effectively immune responses. This accomplishment will lead to the development of new therapeutics for intractable diseases such as autoimmune diseases and graft rejection.