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Research Project

Dissection of the coronin 1-mediated signal transduction pathway

Third-party funded project

Project title Dissection of the coronin 1-mediated signal transduction pathway

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Status Completed

All eukaryotic cells need to respond towards environmental triggers in order to properly function and survive. Such triggers include cell-to-cell signals involved in cell and tissue homeostasis as well as danger stimuli, such as the presence of pathogens. This project aims to investigate the role of members of the coronin protein family, in the response towards such environmental triggers, focussing on immune cell homeostasis and function. Work over the past years has revealed an unexpected role for members of the coronin protein family, that are widely expressed in all eukaryotic species, in the transfer of extracellular triggers to an intracellular response. This is the case for coronin expressed in the slime mold *Dictyostelium discoideum*, that is essential for the initiation of multicellular differentiation. In mammals, its homologue, coronin 1, was shown to be essential for T cell homeostasis and neuronal signaling. The goal of the present project is to delineate the mechanism of coronin-mediated modulation of signal transduction at the molecular level. The results from this project may contribute to a better understanding of cellular homeostasis and activation. Interestingly, coronin 1 mutations are associated with severe neurological and immunological dysfunction in mice and men, and therefore the proposed work may contribute to a better understanding of the role of coronin proteins in normal physiology as well as in disease.

Keywords Coronin; cAMP/PKA pathway; Cell surface signaling; Naive T cell homeostasis

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Follow-up project of [1711342 Regulation of Cell Surface Signaling by Coronin Proteins](#)

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