

Review

The RP105/MD - 1 complex: molecular signaling mechanisms and pathophysiological implications

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Abstract

Radioprotective 105 kDa (CD180) is an unusual TLR that lacks an intracellular Toll - IL - 1R signaling domain and exhibits unconventional homodimerization behavior. Differential expression and functions of radioprotective 105 kDa have been associated with immune - mediated pathologies, including infection, chronic inflammation, and autoimmune disorders. Radioprotective 105 kDa activates macrophages and B cells independently of canonical TLR signaling. Current understanding of the functional consequences of radioprotective 105 kDa signaling in B cells, macrophages, and dendritic cells indicates overlapping, but also some apparent opposing, cell - specific roles for radioprotective 105 kDa in shaping cellular functions. This review compares interactions of radioprotective 105 kDa with its coreceptors, CD19, TLR4, and TLR2; integrates recent, novel findings on radioprotective 105 kDa - mediated molecular signaling mechanisms; and summarizes current understanding of its contributions to infectious, inflammatory, and autoimmune disease.

Citing Literature

