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Meeting abstract

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RCAN1C is differentially expressed in T helper cell subsets

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The Ser/Thr-phosphatase calcineurin is a key enzyme of T cell receptor (TcR)-dependent signaling. Endogenous regulatory proteins regulate its activity in T cells. Here, we show that the transcription of *RCAN1*, coding for the calcineurin inhibitory protein calcipressin 1, is calcineurin/NFAT-dependently upregulated after TcR stimulation. This is mainly due to an increase in the expression levels of the splice variant *RCAN1C*, as the splice variant *RCAN1A* remains unchanged. *RCAN1C* expression is differentially regulated in various $CD4^+$ T helper (T_H) cell subpopulations: *RCAN1C* is stronger upregulated in $CD45RO^+$ memory T_H cells compared to $CD45RA^+$ naïve T_H cells or regulatory T cells. Additionally, memory T_H cells show an elevated baseline expression and a prolonged upregulation of *RCAN1C* transcription upon stimulation. We are discussing how *RCAN1* is regulated and which signal transduction pathways and factors might be involved. It remains to be clarified which differentially activated signaling molecules in the selected T_H cell subsets cause the diverse *RCAN1C* expression pattern.