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Hippo pathway mediates the inhibitory signal on epidermal γδ T cells

Youhei Uchida, Kazuhiro Kawai, Atsuko Ibusuki, Takuro Kanekura

Department of Dermatology, Kagoshima University Graduate School of Medical and Dental Sciences.

Resident murine epidermal γδ T cells, known as dendritic epidermal T cells (DETCs), constitutively express E-cadherin. We have shown that E-cadherin acts as an inhibitory receptor on DETCs, but the signaling pathway that mediates the inhibitory signal through E-cadherin has not been determined. In this study, we analyzed expression levels of known signaling molecules, which mediate inhibitory signals through other lymphocyte inhibitory receptors or through E-cadherin on epithelial cells, before and after cross-linking of E-cadherin on DETCs. Quantitative RT-PCR analysis showed no significant up-regulation of SHP-1, SHP-2, SHIP-1, BATF, or PTEN expression after the cross-linking of E-cadherin on DETCs. Previously, we have shown that E-cadherin is down-regulated upon activation of DETCs during wound healing in vivo. In the periwound activated DETCs, a transcription coactivator, Yes-associated protein (YAP) translocated to the nucleus. YAP in short-term DETC lines also translocated to the nucleus on activation in vitro. These results suggest possible involvement of Hippo signaling pathway, which mediates contact inhibition in epithelial cells, in the inhibitory signal through E-cadherin on DETCs.