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CD147 Is Essential for the Development of Psoriasis via the Induction of Th17 Cell Differentiation

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論 文 要 旨

CD147 Is Essential for the Development of Psoriasis via the Induction of Th17 Cell Differentiation

（CD147/basigin の Th 細胞分化と乾癬病態形成に関する包括的研究）

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Th17 cells play an important role in psoriasis. The differentiation of naïve $CD4^+$ T cells into Th17 cells depends on glycolysis as the energy source. CD147/basigin, an integral transmembrane protein belonging to the immunoglobulin superfamily, regulates glycolysis in association with monocarboxylate transporters (MCTs)-1 and -4 in cancer cells and T cells. We examined whether CD147/basigin is involved in the pathogenesis of psoriasis in humans and psoriasis-model mice.

The serum level of CD147 was increased in patients with psoriasis, and the expression of CD147 and MCT-1 was elevated in their dermal $CD4^+ROR\gamma t^+$ T cells. In vitro, the potential of naïve $CD4^+$ T cells to differentiate into Th17 cells was abrogated in $CD147^{-/-}$. T cells. Imiquimod (IMQ)-induced psoriatic dermatitis was significantly milder in $CD147^{-/-}$ mice and bone marrow chimeric mice lacking CD147 in the hematopoietic cells of myeloid lineage.

These findings demonstrate that CD147 is essential for the development of psoriasis via the induction of Th17 cell differentiation.