学 位 論 文 の 要 旨

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主論文の題名

A population of $CD20^{+}CD27^{+}CD43^{+}CD38^{lo/int}$ B1 cells in PNH are missing GPI-anchored proteins and harbor *PIGA* mutations

主論文の要旨

B1 cells are thought to be a unique B cell subset and are distinguishable from conventional B2 cells by their function and ontogeny. In mice, B1 cells arise in the yolk sac prior to the emergence of hematopoietic stem cells (HSCs), whereas B2 cells are generated continuously from HSCs after birth. Although the phenotypic profile of human B1 cells was recently proposed, their developmental origin remains undetermined. Paroxysmal nocturnal hemoglobinuria (PNH) is a clonal hematological disorder caused by acquired *PIGA* mutations in adult HSCs. Here, we attempted to clarify whether adult HSCs contribute to B1 cell production by tracking B1 cells with the $CD19^{+}CD20^{+}CD27^{+}CD43^{+}CD38^{lo/int}$ phenotype in peripheral blood (PB) leukocytes from patients with PNH. Using flow cytometry, we found that B1 cells missing glycosylphosphatidylinositol-anchored proteins were present in all patients. Sequencing of isolated leukocyte subpopulations from PB of two patients revealed the same *PIGA* mutations in B1 cells and other cell lineages. These results suggest that a population of human B1 cells may originate from adult HSCs that maintain multilineage hematopoiesis.