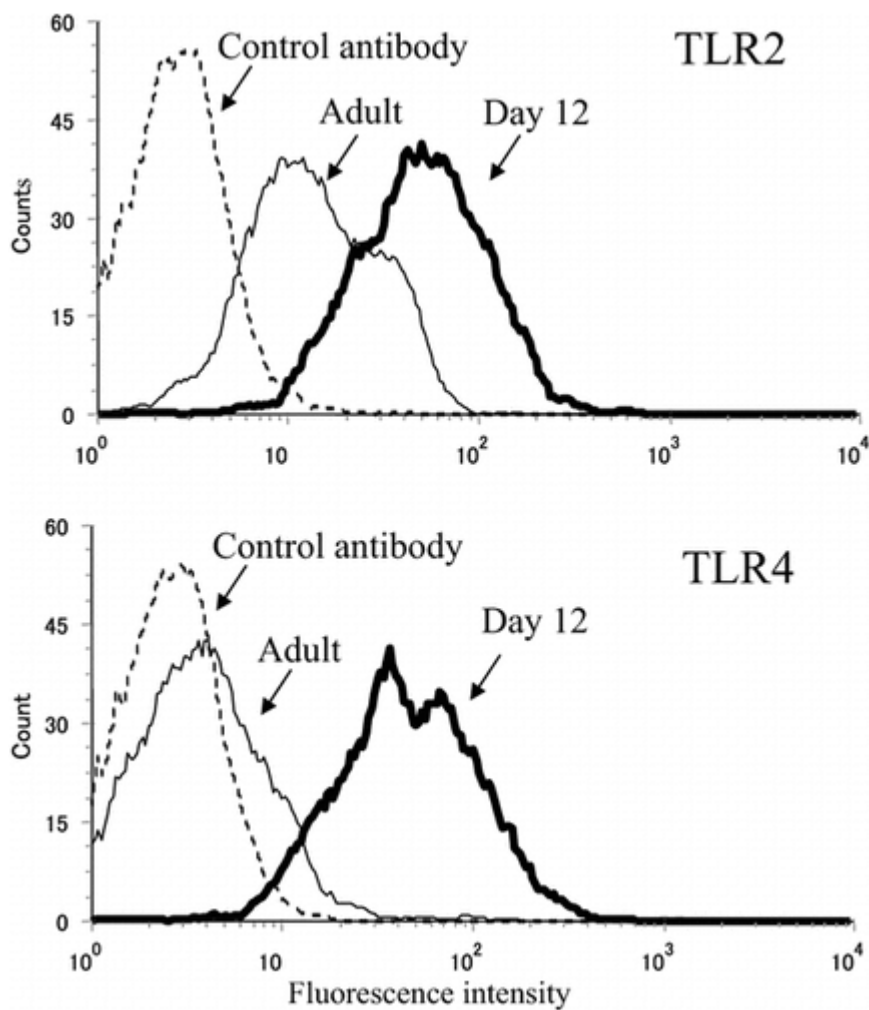


The important role played by the gut microbiota in host immunity is mediated, in part, through toll-like receptors (TLRs). We evaluated the postnatal changes in expression of TLR2 and TLR4 in the murine small intestine and assessed how expression is influenced by gut microbiota. The expression of TLR2 and TLR4 in the murine small intestine was highly dynamic during development. The changes were especially profound during the suckling period, with the maximal mRNA levels detected in the mid-suckling period.

Immunohistochemical and flow-cytometric analyses indicated that the changes in TLR2 and TLR4 expression involve primarily epithelial cells. The germ-free mice showed minor changes in TLR2/TLR4 mRNA and TLR2 protein during the suckling period. This study demonstrated that the postnatal expression of TLR2 and TLR4 in small intestinal epithelial cells is dynamic and depends on the presence of commensal intestinal microbiota.



The expression of TLR2 and TLR4 in the murine small intestine was dynamic during development, with the maximal expression levels detected in the mid-suckling period.