

Regulation of expression and trafficking of perforin-2 by LPS and TNF- α

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(パーフォリン 2 の LPS と TNF- α による発現と輸送の調節)

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論 文 内 容 の 要 旨

Perforin-2 is constitutively expressed in macrophages that are required for bacterial control. In this study, we found that perforin-2 is expressed in human macrophages with two isoforms: full-length perforin-2a and a splice variant, perforin-2b. Two isoforms show different subcellular distributions. Perforin-2a was predominantly localized to the membrane of endosome-like vesicles by a C-terminal transmembrane domain. In contrast, the short isoform perforin-2b lacking the transmembrane domain failed to localize to the membrane of vesicles. Furthermore, we determined that the pro-inflammatory stimuli LPS and TNF- α induced perforin-2a expression via the NF- κ B pathway and triggered perforin-2a vesicles fusion with lysosomes. On the other hand, we detected the secretion of perforin-2b in response to LPS stimulation. Taken together, our data provide the evidence that membrane-bound and secretory isoforms of perforin-2 are present in human macrophages and may play important roles in immune defense.