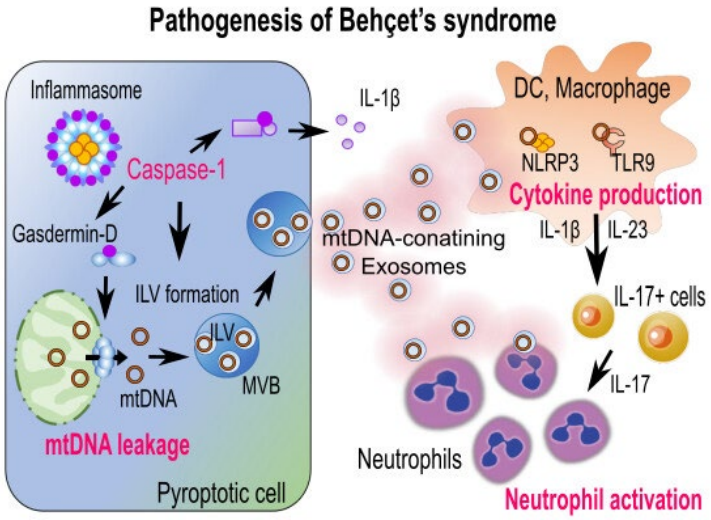
Secretion of mitochondrial DNA via exosomes promotes inflammation in Behçet's syndrome

Abnormalities of the innate immune response have been thought to be a part of the pathology of Behçet's syndrome (BS), which is designated as an incurable disease. However, the detailed mechanism has remained unclear. A research group of Hyota Takamatsu and Atsushi Kumanogoh (Osaka University Graduate School of Medicine/Immunopathology, IFReC) revealed that the mtDNA wrapped in exosomes is responsible for the inflammatory pathology of BS.



Monocytes derived from patients with BS, a chronic systemic inflammatory disorder, show enhanced caspase-1 activation, leading to exosome-mediated mtDNA secretion and similar inflammation pathology as seen in BS patients. MtDNA-containing exosomes promote inflammation, providing new insights into the propagation and exacerbation of inflammation in human inflammatory diseases.

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