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MICROFLUIDIC AND PATHOLOGY OF THE MICROCIRCULATION

Abstract

The project consists in using microfluidic devices to test human leukocyte behavior in microcirculation. Adult Respiratory Distress Syndrome (ARDS) is a disease that affects numerous patients in intense care services with a rate of death 50%. It is triggered to the sequestration of neutrophils within the lung microvasculature. There is neither diagnostic nor efficient treatment now. We study the properties of the passage of THP-1, and real neutrophils in micro-channels of width 6 μ m. In order to improve the understanding of SDRA, we also incubate models cells in patient's serums who are suffering from ARDS and diagnostic tools are being developed in collaboration with the hospitals of Marseille.