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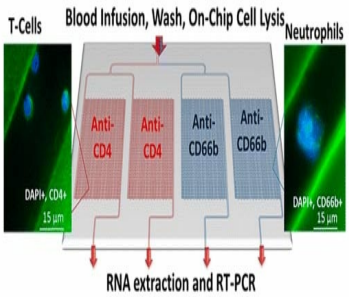
Ischemic or Hemorrhagic Stroke? Check the Biomarkers!



When someone suffers a stroke, a race against time begins, as a fast diagnosis and subsequent treatment can make the difference between life and death.

According to a report published in the ACS journal Analytical Chemistry, a team of scientists led by Steven A. Soper is working on a new blood test that could swiftly diagnose not only whether someone is having a stroke, but also which kind they are suffering from.

The third leading cause of death in the US, a stroke is either ischemic or hemorrhagic with both types leading to similar symptoms such as sudden weakness, headache and numbness on one side of the body. Treatment should ideally be administered within three hours of onset, however the most adequate method depends on the kind of stroke a person is having.

In ischemic strokes, a clot stops blood flow in a part of the brain, whereas in hemorrhagic stroke, a blood vessel in the brain ruptures, causing bleeding.

Soper's collaborator, Alison Baird, from SUNY Downstate Stroke Center, has discovered biomarkers in the blood that could lead to diagnosis of the stroke type and aid determination of the proper treatment course.

Seeking a way to detect those clues quickly, Soper's team constructed a device able to process whole blood and isolate genetic material for two potential stroke biomarkers within just minutes.

Bearing in mind that diagnosis could be facilitated with an increased number of biomarkers, the researchers ensured that their innovative tool can analyse a total of four biomarkers simultaneously.

Full details on 'Parallel Affinity-Based Isolation of Leukocyte Subsets Using Microfluidics: Application for Stroke Diagnosis' can be obtained online.

Source: Science Daily

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