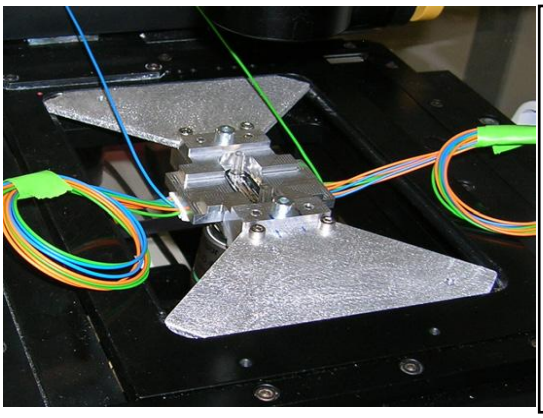
Centro di Riferimento Oncologico

REGIONE AUTONOMA FRIULI VENEZIA GIULIA
ISTITUTO DI RICOVERO E CURA A CARATTERE SCIENTIFICO
CRO di Aviano - Istituto Nazionale Tumori

Scientific Direction – Technology Transfer Office



Sector: Medicine
Patent Ownership: University of Udine & National Cancer Institute (IRCCS CRO), Aviano
Inventors: A. Affanni, R. Specogna, F. Trevisan, M. R. Cozzi, L. De Marco, M. Mazzucato, M. Battiston
Priority date: 2 filing dates: 04/05/2012 and 03/04/2013
Patents Publication Number: WO2013164676 and US2016047827
Legal status: Patent granted in Italy and Europe
Available for license option
Contacts: Technology transfer offices of:
University of Udine_ brevetti@udine.it – tel. +39 0432556384
CRO Aviano _ dirscienti@cro.it – tel. +390434659749

Rapid Evaluation of Thrombo-Haemolitic Risk

Lab-on-chip device for thrombotic risk evaluation at Point-of-Care testing

What is it about?
The solution consists in a micro-fluidic device that performs accurate real-time volumetric analysis of the process of blood clots formation on sample in conditions of laminar flow. The system is based on impedance analysis of the fluid during the clot formation and reduces costs compared with technologies that rely on optical analysis. It is an integrated device, of limited size, achievable with disposable materials, it can also be used in outpatient setting (Point of Care) with simplified procedure for sample preparation.

What need covers?
Diagnostic tests for thrombo-embolic risk assessment are aimed at preventing and reducing the risk of ischemia and bleeding caused by congenital factors or external causes as prolonged treatment with anticoagulant drugs. A device for rapid assessment of thrombotic risk, cheap and easy to use in outpatient setting makes effective the monitoring of anticoagulation treatment, hence the prevention and early diagnosis of thrombo-embolic risk. This system is useful for several categories of subjects at risk: patients being treated with anticancer drugs, cardiac prosthesis wearers and coronary stents, dialysis patients or post therapy surgical.

What advantages?
- The analysis is in real time, with no significant interactions in the coagulation process and in flow conditions.
- The device provides an advantage in economic terms compared optical technologies and it is suitable for outpatient use.

Which is the reference market?
The target market is that of medical devices industry. Estimates indicate a growth trend in the medium term. The infrastructure improvements, the construction of hospitals and clinics, the increased spending power per capita in developing countries, increasing urbanization, they are among the factors that will support that growth. Technological development it is targeted towards decentralized technical and diagnostic tools and the near patient testing. Estimates of analysts indicate a value of about 300 million of dollars for the market segment of coagulation tests in Point-of-care setting. The proposed solution is of interest for healthcare operators in the field of diagnostic devices, suppliers of specialized materials, manufacturers of electromedical equipment and suppliers of services in the medical field.

Progress status
Component prototypes have been built and the technology is ready for the step of industrial verification.