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RANTES Multiplexed Assay, RANTES Variants Related to Disease and Enzymatic Activity

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Inventors

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Invention Description

With the increasing focus on personalized medicine there is a need for specific tools that can be used to predict, diagnose, and monitor disease progression and treatments. The clinical significance of one such disease marker, RANTES, a chemoattractant cytokine in inflammation, has been suggested in kidney related complications, autoimmune diseases, and several forms of carcinoma.

Plasma RANTES levels have been found to increase with progressive cancer stages (I, II, III, or IV). Furthermore, a large population study found RANTES in higher concentration in the plasma of subjects with Type II diabetes and impaired glucose tolerance (IGT), relative to healthy controls. Many variants of RANTES are found in biological systems, and the clinical significance of these different forms is still unknown.

Researchers at the Biodesign Institute at Arizona State University have developed a multiplexed RANTES assay that can simultaneously detect, identify, and quantitate new RANTES variant forms to diagnose and monitor the progression of a disease. This multiplexed assay has identified more than 23 variants of RANTES and has accurately predicted the presence of various disease states. The high information content of this assay can aid in monitoring disease progression as well as the effectiveness of therapy.

Potential Applications

- Clinical diagnostic tool for many diseases:
  - Kidney related complications (renal failure and renal cancer)
  - Autoimmune diseases (arthritis, diabetes, glomerulonephritis)
  - Cancer (breast and cervical cancer)

Benefits and Advantages

- Low cross reactivity and error
- Can measure 23+ RANTES variants simultaneously
- Allows discovery of new forms of RANTES variants

Intellectual Property Status:

Patent Pending

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