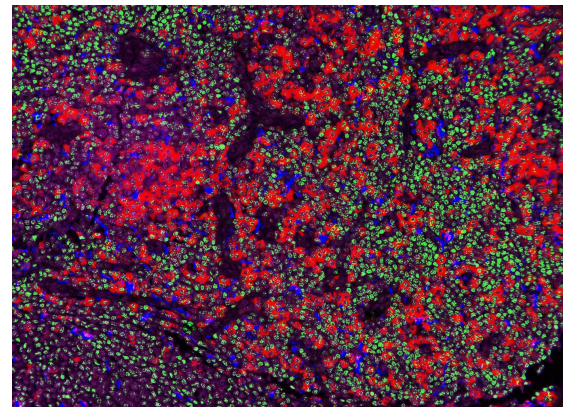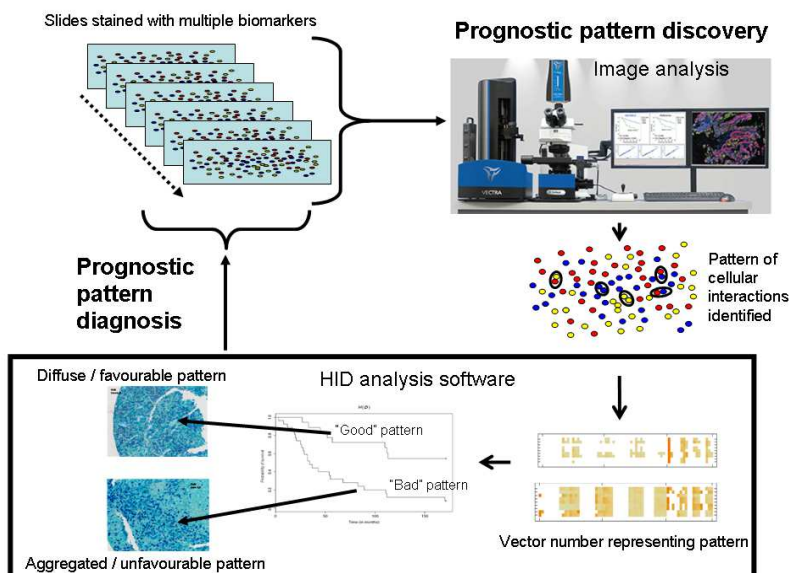# AUTOMATED PATHOLOGY DIAGNOSIS USING PATTERN ANALYSIS

BACKGROUND

The pattern of cells in tissue samples reflects biological behavior and response to treatment. It is what pathologists have used to diagnose, predict outcome and recommend best treatment of cancer for years.

However, in the age of personalised medicine, new treatments require more precise diagnosis, requiring the expression of many biomarkers to be measured simultaneously. This is difficult to do with the human eye. Additionally, human analysis of the pattern of multiple biomarkers is particularly difficult.

THE TECHNOLOGY

Slides stained with multiple biomarkers

Prognostic pattern discovery
Image analysis

Prognostic pattern diagnosis

Pattern of cellular interactions identified

Diffuse / favourable pattern
HID analysis software
"Good" pattern
"Bad" pattern
Aggregated / unfavourable pattern
Vector number representing pattern

We have developed a software application that can automatically analyse the prognostic pattern of many biomarkers in human tissue samples. The software converts the pattern of cells into a vector number that can be used in downstream analysis, including survival analysis. This will allow discovery of new prognostic patterns of cells that can be then be used for diagnosis. It is the first of its kind and a patent has been filed.

KEY BENEFITS

Our proprietary software enables high-throughput, automated and quantitative analysis of prognostic patterns of multiple biomarkers in human tissue samples simultaneously. The software simply converts the pattern of biomarkers into a vector number that can be used in downstream analysis. This will allow discovery of new prognostic patterns of cells that can be then be used for more precise diagnosis, provide unprecedented insight into the response to treatment and in-turn allow the best treatment to be recommended.

APPLICATIONS

Our proprietary software application finds application in the automated simultaneous analysis of prognostic patterns of multiple biomarkers in tissue samples, which provides insight into the response to treatment and enables more precise diagnosis.

INTELLECTUAL PROPERTY

The intellectual property associated with our software is protected by patent.

OPPORTUNITY

We are seeking a licensee or industrial collaborator to further develop our proprietary software into a research and diagnostic tool either within or as an add-on to existing image analysis platforms.

CONTACT

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