

## 23-12: blood-based marker for early breast cancer detection

- ✓ Blood sample screening of HYAL2 methylation
- ✓ Sensitive for the young woman and the early stage breast cancer
- ✓ Compare to the mammography, no disadvantage of radiological exposure

### The Technology

DNA methylation marker with outstanding discriminatory power for early Breast Cancer detection that can be identified in a simple blood test. Methylation Analysis performed via MALDI-TOF Mass Spectrometry. Data were collected by SpectroACQUIRE v3.3.1.3 software and visualized with MassArray EpiTyper v1.0 software. The analyses of MassARRAY and expression data were processed by different strategies. The correlations were assessed by Spearman's rank correlation coefficients. Logistic regression models and non-parametric tests were used for comparisons between two and multiple groups. The results of logistic regression were adjusted for possible confounding effects of age and different measurement batches by including additional co-variables in the logistic regression models. Receiver operating characteristic (ROC) curve analysis was performed to assess the discriminatory power of methylation levels. All the statistical analyses of MassARRAY and gene expression data were conducted by SPSS Statistics 17.0 software.

### Background

Breast cancer is the most common type of cancer and cause of cancer-related death among women in industrialized countries. Worldwide approximately 1.3 million women develop breast cancer each year.<sup>1</sup> Mortality rates have continued to decrease over the years due to the advances made in early diagnosis and treatment. Nevertheless, thousands of women die from this disease each year. As an early event in development of cancer, changes of DNA methylation are particularly promising markers of the early detection of Breast Cancer.

### Advantages

- ✓ All analysis with a simple blood test
- ✓ Efficiently detect breast cancer with different clinical characteristics
- ✓ rapid, quantitative and accurate analysis for the early detection of breast cancer

### Commercial Opportunity

- ✓ Personalized medicine
- ✓ Breast cancer diagnosis

### Intellectual Property

Patent application EP 12 178 715.4

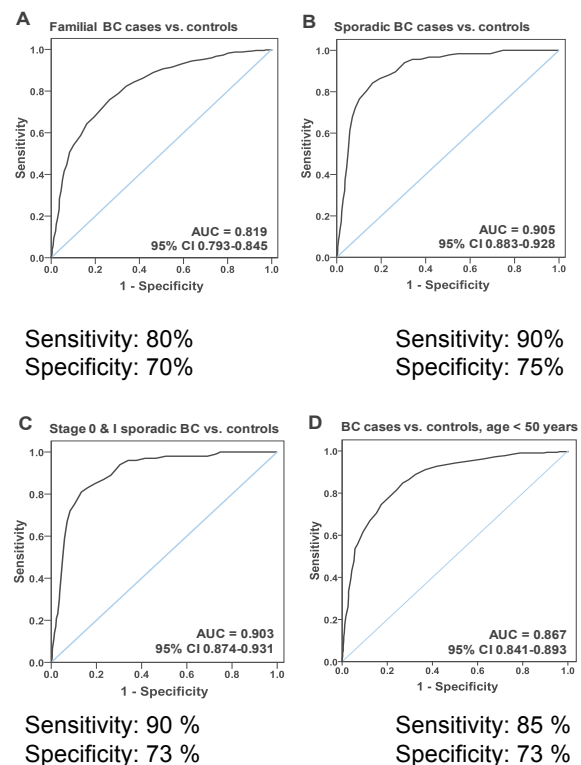


Fig. 1) Methylation and Hyal2 expression ROC curve

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