

# Early-stage diagnosis of pancreatic cancer offers opportunity to improve patient survival\*

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## Introduction

Pancreatic ductal adenocarcinoma (PDAC) shows a very poor survival rate with only 6% five year survival. By resecting tumors when they are still confined to the pancreas, the overall five year PDAC patient survival rate could reach 50- 60%. In an effort to achieve reliable early detection we have developed IMMray™ PanCan-d, a microarray-based blood test for diagnosis of PDAC patients.

## Objective

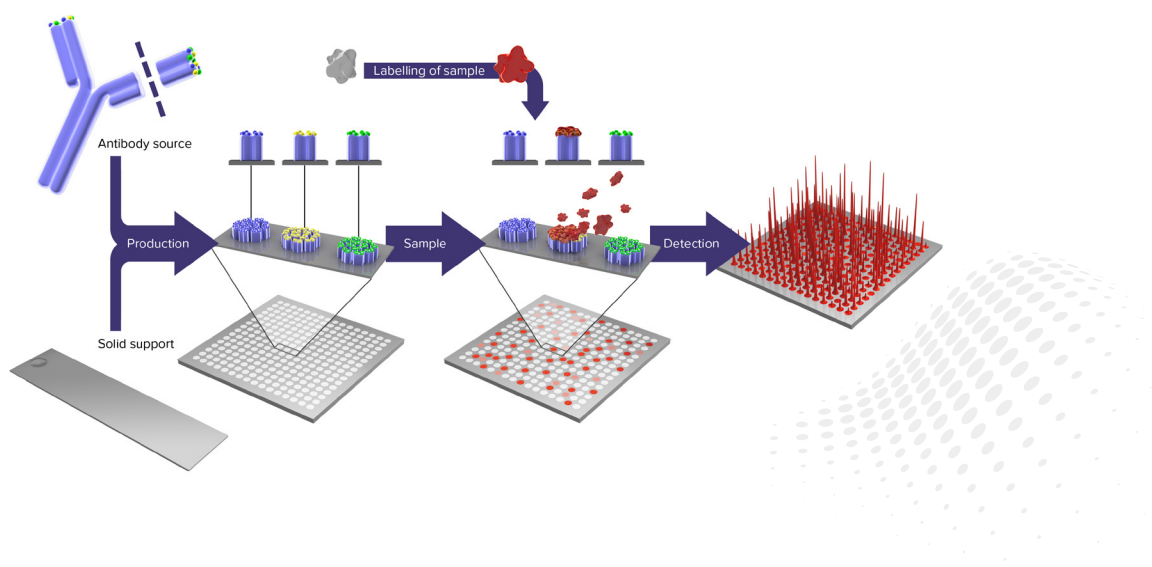
The purpose of the IMMray™ PanCan-d microarray-based test is to detect serum biomarkers associated with PDAC.

## Conclusions

- PDAC stage I and II patients were detected with 96% accuracy and validated with a distinct patient cohort
- PDAC stage I to IV patients were detected with 98% accuracy and validated with a distinct patient cohort
- Six studies covering 2482 samples demonstrated robustness and high accuracy of the IMMray™ PanCan-d platform

## Methods

Antibody microarray slides are printed and incubated with patient serum. Bound antigens are detected by fluorescence, the slides are scanned and the resulting microarray images are analyzed by state-of-the-art bioinformatics tools.

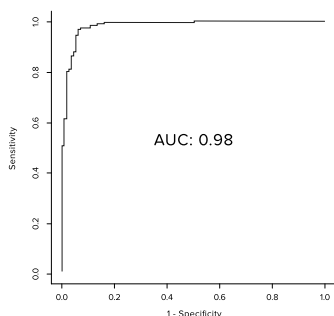


## Results

In a retrospective study on a South Scandinavian cohort, 1355 blood samples were analyzed.

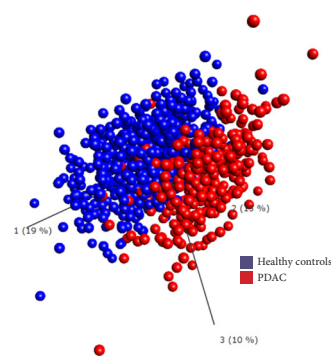
### Detection PDAC stage I-IV

PDAC stage I-IV was detected with 98% accuracy.



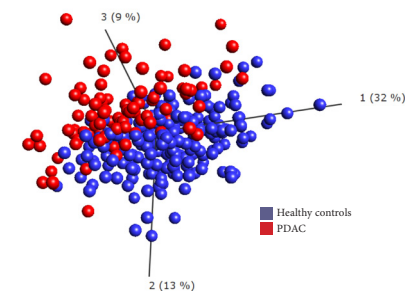
### Detection PDAC stage I and II

148 patients in PDAC stage I and II were differentiated from 888 healthy controls with 96% accuracy.



### North American validation study - PDAC stage I and II

PDAC stage I and II patients were detected with 96% accuracy using a locked signature in a clinical validation study with a North American sample cohort.



## Studies performed on the IMMray™ PanCan-d platform

Analyses of PDAC in several retrospective studies proved that the test could classify the samples consistently and with an accuracy  $\geq 95\%$ .

STUDY	NO. OF SUBJECTS	AUC*
Ingvarsson et al. 2008 <sup>1</sup>	44	1
Wingren et al. 2012 <sup>2</sup>	103	0.95
Gerdtsen et al. 2015 <sup>3</sup>	338	0.98
Gerdtsen et al. <sup>4</sup>	213	0.96
South Scandinavian Study <sup>5</sup>	1355	0.98
North American Validation Study <sup>6</sup>	429	0.96
Total No. of Subjects	2482	*Healthy controls vs. PDAC patients

## References

1. Ingvarsson J et al. Proteomics 2008 8(11):2211-9
2. Wingren et al. Cancer Res. 2012 15;72(10):2481-90
3. Gerdtsen et al. Int Journal of Proteomics 2015;2015:587250
4. Gerdtsen et al. (Submitted 2016)
5. Manuscript in preparation
6. In collaboration with OHSU Knight Cancer Institute and the Brenden-Colson Center for Pancreatic Care

