

## TECHNOLOGY OFFERS

# Plasma S100P and Hyaluronic Acid (HA): Markers for Metastatic Breast Cancer (P-1157)

*Two serum/plasma markers for stage discrimination, prediction of survival and treatment response in breast cancer patients*

## EXECUTIVE SUMMARY

The technology describes two serum/plasma markers, in combination or alone, for stage discrimination and prediction of survival as well as treatment response in breast cancer patients. Test statistics show that these markers perform better than established ones like the number of circulating tumor cells (CTCs).

DKFZ is looking for a commercial partner to establish the test in a routine clinical setting.

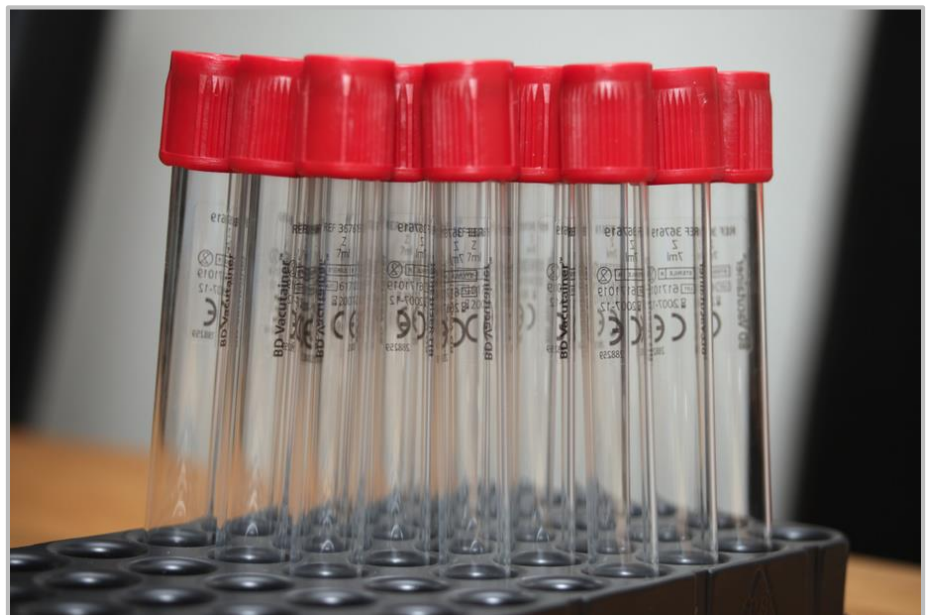


Photo by Håkan Dahlström, CC <http://bit.ly/2uKxiZP>

### Category

Diagnostics, stratification

### Indication

Breast Cancer

### Development stage

Pre clinical

### Seeking

Licensing, Commercial partner

## BENEFITS

- Discrimination between metastatic and non-metastatic breast cancer AUC of ROC curve = 0.85
- More accurate prediction of progression-free and overall survival than presence of CTCs
- More accurate prediction of treatment response than presence of CTCs

## TECHNOLOGY BACKGROUND

Common ELISA technology has been used for detection of hyaluronic acid and S100P in plasma of breast cancer patients.

## DEVELOPMENT STAGE

Marker approved and verified in studies of 320 (S100P in combination with HA) and 334 (HA only) patients with different disease stages.

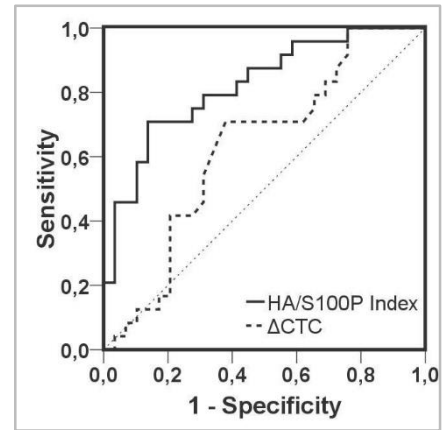
## APPLICATIONS

Marker for diagnostic, prognostic and treatment monitoring of metastatic breast cancer.

## INTELLECTUAL PROPERTY

Patented.

- PCT see WO2015158652A2 .
- Priority patent application filed “New Biomarkers for metastatic breast cancer” as [EP 1416486 5.9](#) .
- Nationalized as EP3132266B1 (granted), CN106489074B (granted), ES2700367T3 (granted), US20170030912A1.



ROC analysis of plasma HA in combination with S100P level changes indicating treatment outcome of metastatic breast cancer patients.

$AUC_{\Delta S100P/HA} = 0.82$ ;  $AUC_{\Delta CTC} = 0.63$

## PUBLICATIONS & REFERENCES

- Melanie Maierthaler, Mark Kriegsmann, et al. “S100P and HYAL2 as prognostic markers for patients with triple-negative breast cancer”, Experimental and Molecular Pathology, Volume 99, Issue 1, 2015, Pages 180-187, ISSN 0014-4800, <https://doi.org/10.1016/j.yexmp.2015.06.010>.
- Peng, C. , Wallwiener, M., et al. (2016), Plasma hyaluronic acid level as a prognostic and monitoring marker of metastatic breast cancer. Int. J. Cancer, 138: 2499-2509. doi:[10.1002/ijc.29975](https://doi.org/10.1002/ijc.29975)

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## ABOUT THE DKFZ INNOVATION MANAGEMENT

Working at the interface of research and industry, the Innovation Management of the German Cancer Research Center (DKFZ) helps to get new cancer medications, diagnostic tests, and research instruments onto the market as quickly as possible.

The DKFZ with its more than 3,000 employees is the largest biomedical research institution in Germany. At the Center more than 1,300 scientists investigate how cancer develops, identify cancer risk factors and endeavor to find new strategies to prevent people from getting cancer. They develop novel approaches to make tumor diagnosis more precise and treatment of cancer patients more successful. DKFZ is a member of the Helmholtz Association of National Research Centers, with ninety percent of its funding coming from the German Federal Ministry of Education and Research and the remaining ten percent from the State of Baden-Württemberg