Company Profile

mosaiques diagnostics

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The **mosaiques diagnostics GmbH,** located in Hanover (Germany), is the world leader in proteomic diagnostics based on unique proprietary technology and analysis software.

The company is networked with more than 25 international partners in R&D.

The company's core competences are:

- reliable diagnosis in early stages of diseases
- differential diagnosis
- therapy monitoring

The company utilizes multi-dimensional **Dia**gnostic polypeptide biomarker **Pat**terns (**DiaPat**) derived from the fast and accurate analysis of almost 6000 polypeptide protein fragments mainly in urine but also in other body fluids (e.g. bile fluid and cerebrospinal fluid) to define disease classifiers according to clinical standards.

Each disease is associated with distinct and often stage-dependent alterations in the proteome - the entire set of proteins in a tissue or the whole organism at a certain time. These alterations harbour a vast wealth of diagnostic information; however, there is no clinically usable technique in existence that can access all of it at once. Nevertheless, the pattern of protein fragments (polypeptides) found e.g. in the urine accurately mirrors these alterations at any point in time – allowing for the definition of a disease classifier comprising a statistically significant disease-specific pattern of peptides, each a biomarker in itself.

Cornerstones for diagnostic success are:

- classifiers based on multi-dimensional polypeptide biomarker patterns specifically mirror systemic and local pathological processes involved in a disease – way more accurately than single biomarkers, thus enabling:
    - accurate risk stratification
    - accurate phenotyping patients even without diagnostically relevant symptoms
    - potential prediction of advanced disease stages or acute events
- urine samples are obtained non-invasively without any discomfort for the patient
- urine samples are stable as well as save and easy to handle – other than e.g. blood

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DiaPat's polypeptide pattern technology has been proven in multiple blinded clinical studies on over 20,000 qualified patient samples from different pathological alterations:

Field	Indication/Disease	Sample	Sensitivity	Specificity	Status
Oncology	Bladder Cancer staging	Urin	92%	68%	in the market
	Prostate Cancer	Urin	90%	60%	in the market
	Cholangiocarcinoma	Urine + Bile	92%	84%	in the market
	GvHD after allo-HSCT	Urin	82%	77%	in the market
Nephrology	Chronic kidney disease [1]	Urin	>85%	>85%	in the market
	Diabetic nephropathy [1]	Urin	>85%	>85%	in the market
Cardiology	Coronary artery disease [2]	Urin	79%	88%	in the market
	HFpEF	Urin	69%	94%	in the market
	HFrEF	Urin	-	-	in development
	Myocardial infarction [3]	Urin	-	-	in development

HFpEF..... heart failure with preserved ejection fraction (diastolic heart failure)
HFrEF..... heart failure with reduced ejection fraction (systolic heart failure)
LVDD..... left ventricular diastolic dysfunction
[1]..... prediction of onset of macroalbuminurea up to 4.5 years in advance
[2]..... patients with stable angina can not yet been reliably diagnosed
[3]..... prediction of acute event for up to 8.5 years in advance

The technology, as well as the clinical application, has been published in over 160 high ranking journals, including, but not limited to: Nature Medicine, Blood, JASN, Lancet Oncology, and Mass Spectrometry Reviews. These high ranking scientific publications have established DiaPat as the leading player in the field of clinical proteome analysis, and have also resulted in the definition of standard practices within the clinical proteomics field and the construction of a unique academic framework of worldwide collaborations with over 60 Universities (e.g. Harvard, UVA, NIH, FDA, INSERM, University of Glasgow, Steno Diabetes Center, etc.).

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