Discover novel Biomarkers using KinomePro technology

Biomarkers are crucial to the advancements in personalised healthcare across multiple disease domains. KinomePro, PamGene's kinase activity profiling platform provides simultaneous unbiased measurement of active kinases within cell or tissue lysates. These signatures can provide insights into the mechanisms of diseases and enable the discovery of novel biomarkers.

KinomePro – Kinase Activity Profiling for Biomarker Discovery & Clinical Research

- **Disease Classification:**
  Determine disease phenotypes, stages and patient subgroups based on kinase activity signatures.

- **Prognostics Biomarkers:**
  Develop biomarkers to assess disease progression or risk of recurrence by correlating patient's kinase activity profiles to clinical outcomes.

- **Therapy Response Prediction:**
  Identify patient subpopulations most likely to respond to standard of care or novel therapies using active kinase profiling in patient biopsies or surrogate cells.

- **Pharmacodynamic Biomarkers:**
  Discover molecular indicators of drug effect and elucidate pathways impacted by treatment using kinase activity profiles in patient-derived tissues.


Biomarkers to predict Nivolumab response in NSCLC patients [1]
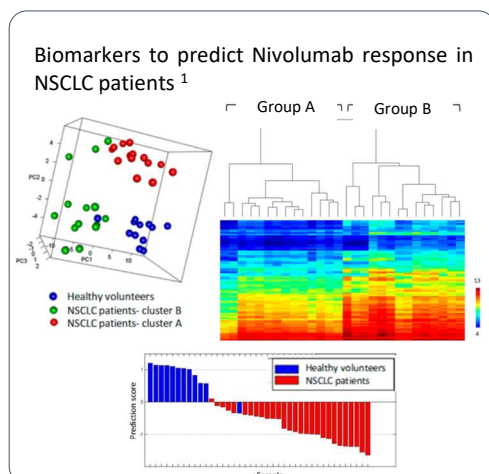
IOpener® melanoma test is predictive for disease progression in melanoma patients treated with anti-PD1. [3]
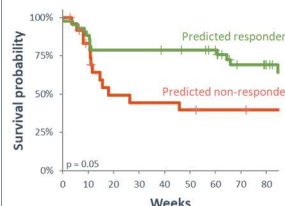
PBMCs as a pharmacodynamic biomarker in metastatic renal cell carcinoma patients treated with Sunitinib [2]

Kinase inhibition by Sunitinib
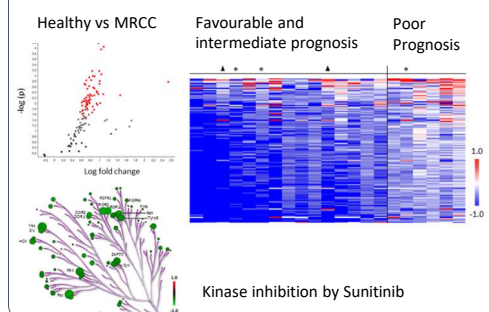
IOpener® NSCLC is predictive for disease progression in NSCLC patients (TPS score < 50%) treated with anti-PD1. [3]
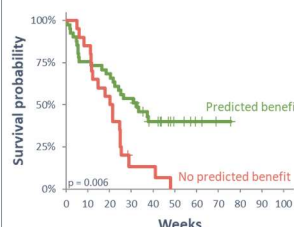
KinomePro – Kinase Activity Profiling Platform

PamGene has developed **a unique peptide-based microarray technology** for high throughput kinase activity measurements in cellular lysates. In short, we can simultaneously detect kinase activity **of 380+ full-length kinases** from a wide variety of sample types with as little as 0.5-5 ug total protein per array.

Accelerate biomarker discovery by using KinomePro, PamGene's expert kinase activity profiling services

PamGene Kinome Profiling Service

We provide end-to-end research services in our ISO 13485:2016 certified labs in the Netherlands.
We assist throughout the process, from sample preparation to in-depth data analysis and interpretation, ensuring that you have the support you need at every step.

1. Contact us for an introduction and to discuss your research needs. Then we can determine together the best approach for your project.
2. Send us your samples, and we'll perform the kinase profiling analysis using our PamChip® technology.
3. Receive a detailed report from us, which includes bioinformatics analysis, data interpretation, and insightful recommendations for follow-ups. Our report aims to provide a comprehensive understanding of the outcomes of kinase profiling.

We have **extensive experience** working with a **wide range of cell types and disease models**, and our experienced team of scientists is committed to helping you achieve your research goals.

Contact our Service Team

Martijn Dankers - Contributed to the development of the PG platform, with over 20 years of experience in kinome profiling. **mdankers@pamgene.com**
Karlijn van Soest - Leading scientific research projects within PamGene **kvsoest@pamgene.com**

Scientific Validation of Kinase Profiling

With over 400 scientific publications, PamGene's kinase profiling technology has been extensively validated.

1. 2019 *Cancers* study demonstrated its utility in predicting treatment responses in NSCLC patients treated with Nivolumab (Ref 1).
2. 2016 *Oncotarget* article highlighted the importance of active kinase profiles as in pharmacodynamic biomarker in MRCC (Ref 2).
3. Pamgene's IOpener® test – The First CE-IVD platform that can predict response to immune checkpoint inhibitors (ICI) from a blood draw (Ref 3).

For a longer list of **publications** involving PamGene's technology, visit **pamgene.com/publications**

References:
1. G. Noe, et al. Differential Kinase Activation in Peripheral Blood Mononuclear Cells from Non-Small-Cell Lung Cancer Patients Treated with Nivolumab. Cancers 2019
2. G. Noe, et al. Clinical and kinomic analysis identifies peripheral blood mononuclear cells as a potential pharmacodynamic biomarker in metastatic renal cell carcinoma patients treated with sunitinib. Oncotarget 2016
3, Hurkmans DP, et al. Blood-based kinase activity profiling: a potential predictor of response to immune checkpoint inhibition in metastatic cancer J Immunother Cancer 2020