sphingotest® penKid
A Marker for Acute Kidney Dysfunction
Prediction, Diagnosis and Monitoring of Acute Kidney Injury

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Reliable
• Worldwide validated in ten-thousands of patients
• Simple and robust cut-off
• Independent of comorbidities and inflammation

Practical
• Blood e.g. plasma as sample matrix
• Stable at room temperature
• 1 hour to result

Valuable
• Prediction of Acute Kidney Injury supports decision on the use of nephrotoxic drugs and renal replacement strategies
• Close monitoring of kidney function supports patient management and discharge decision

sphingotest® biomarker assays
To predict, diagnose and monitor Acute Kidney Injury

sphingotest® penKid is an immunoassay suitable for clinical routine that measures the plasma level of penKid.

penKid is a stable surrogate marker for the instable Enkephalin.

Enkephalins are highly expressed in the kidney and indicate the actual kidney status, allowing early prediction, diagnosis and monitoring of Acute Kidney Injury (AKI).

Simple validated cut-off

<table>
<thead>
<tr>
<th>penKid</th>
<th>sCr</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>high/low</td>
<td>Acute Kidney Injury</td>
</tr>
<tr>
<td>high</td>
<td>low</td>
<td>High risk of AKI</td>
</tr>
<tr>
<td>low</td>
<td>high/low</td>
<td>Patient is recovering</td>
</tr>
<tr>
<td>low</td>
<td>low/low</td>
<td>AKI free</td>
</tr>
</tbody>
</table>

100 pmol/L penKid ➔ Serum Creatinine (sCr) ➔ time 1 - 2 days ➔ penKid ➔ Serum Creatinine (sCr) ➔ time 1 - 2 days

AKI treatment non-responder

• Sepsis / Septic Shock
• Acute Heart Failure
• Acute Myocardial Infarction

penKid supports physicians in vital medical decisions, such as
• the use of nephrotoxic drugs
• renal replacement strategies

To assess kidney function in all clinical settings

Prediction, diagnosis and monitoring

To improve AKI management and hospital outcomes

The level of penKid also declines up to two days before creatinine, making it possible to detect earlier that the medical treatment is successful and thereby supporting patient management and discharge decision.

In contrast to other kidney markers, penKid correlates with the severity of AKI, and is not influenced by systemic inflammation or comorbidities.
To assess kidney function in all clinical settings

The level of penKid rises up to two days before serum creatinine (sCr) and can be used to predict, diagnose and monitor Acute Kidney Injury in critically ill patients, e.g. in

- Sepsis/Septic Shock
- Acute Heart Failure
- Acute Myocardial Infarction

penKid supports physicians in vital medical decisions, such as

- the use of nephrotoxic drugs
- renal replacement strategies

Prediction and diagnosis
To predict, diagnose and monitor Acute Kidney Injury, sphingotest® penKid is an immunoassay suitable for clinical routine that measures the plasma level of penKid. penKid is a stable surrogate marker for the instable Enkephalin. Enkephalins are highly expressed in the kidney and indicate the actual kidney status, allowing early prediction, diagnosis and monitoring of Acute Kidney Injury (AKI).

**Simple validated cut-off**

The level of penKid rises up to two days before serum creatinine (sCr) and can be used to predict, diagnose and monitor Acute Kidney Injury in critically ill patients, e.g. in:
- Sepsis / Septic Shock
- Acute Heart Failure
- Acute Myocardial Infarction

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To assess kidney function in all clinical settings

**Prediction, diagnosis and monitoring**

To improve AKI management and hospital outcomes

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**Monitoring**

The diagram illustrates the relationship between penKid and serum creatinine (sCr) over time. It shows the distinction between treatment responders and non-responders, with penKid concentrations and sCr levels changing over 1-2 days.
sphingotest® penKid: An early window to the kidney for AKI clinical decision making

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**Practical**
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- Stable at room temperature
- 1 hour to result

**Valuable**
- Prediction of Acute Kidney Injury supports decision on the use of nephrotoxic drugs and renal replacement strategies
- Close monitoring of kidney function supports patient management and discharge decision
sphingotest®
acute biomarkers

- Early prediction for early intervention
- Close monitoring for discharge decision
- Unaffected by comorbidities and inflammation
- Simple and robust cut-off
- Easy handling of blood samples

sphingotest® bio-ADM
Prediction, Diagnosis and Monitoring of Acute Circulatory Failure e.g. in Sepsis and Incomplete Decongestion in Acute Heart Failure

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