## calciscon



Novel blood test for the assessment of calcification propensity and improved cardiovascular risk management

### CALCISCON at a glance



CALCISCON is a Swiss biotech start-up founded in August 2013, which currently employs five people. It provides clinical diagnostic labs with the first ready-to-use in vitro diagnostic blood test kit for the measurement of calcification propensity.

# Today's unsolved medical problem

Pathological calcifications and cardiovascular events are among the most serious worldwide health problems. They are especially prevalent in kidney patients. This leads to suffering, and abundant interventions and hospitalizations. Furthermore, calcifications result in a vastly enhanced risk of death and high costs for patients and health insurance companies alike. Unfortunately, so far, the early detection of patients at increased calcification risk and, therefore, the timely guidance of therapy and monitoring of treatment success have not been possible.

Today's calcification-related diagnostic methods	Early detection of calcification propensity	Detection of calcifications	Short-term treat- ment monitoring
<b>Imaging methods</b> (e.g. X-ray, CT-scan, ultrasound)	No	Yes	No
Functional tests (e.g. Pulse Wave Velocity)	No	Limited	No
Routine blood tests (e.g. Pi, Ca, Vit. D, PTH)	No / limited	No	No / limited
CALCISCON's T <sub>50</sub> -Test (functional blood test)	Yes	No	Yes

# *Our innovative, patented solution*

Our novel blood test ( $T_{50}$ ) closes today's diagnostic gap and enables, for the first time, the early detection of patients at enhanced risk of calcification. The  $T_{50}$  Calcification Inhibition Test is the first in vitro diagnostic test that integrates the complex biological interplay of all calcification inhibiting and promoting forces inherent in blood into a single readout. It represents a unique and completely novel approach in medicine. As a screening test it has a large potential to become a future reference test not only for kidney patients, and to reduce costs in the mid-to long-term.



The  $T_{50}$ -Test measures the maturation time of calciprotein particles (CPPs) by nephelometry (*Pasch, JASN, 2012*). Commercially available equipment is used for the measurement.

CALCISCON holds an exclusive, worldwide, irrevocable license for the  $T_{50}$ -Test principle (patent pending).

## The product

The main product is a disposable diagnostic test kit containing of 96-well micro-plates, sealing films, controls and the ready-to-use solutions.

It will be sold to large central labs (customers of CALCISCON), and offered by them to doctors for clinical routine use. The necessary technical equipment (nephelometer, automated pipetting platform, and an easy-to-use software) to run the test will be provided by CALCISCON.

## Clinical evidence

The T<sub>50</sub>-Test is already known to be highly predictive of patient survival, transplant graft failure, and the progression of aortic stiffness in kidney patients (*Smith, JASN 2014; Keyzer, ERA-EDTA 2014*).



Prediction of survival by the  $T_{\rm 50}\text{-}Test$  in 184 patients with chronic kidney disease stage 3 & 4 (Smith, JASN, 2014).

It is furthermore already known that calcification propensity can be therapeutically improved by available compounds (*Pasch, ERA-EDTA 2014*).



Improvement of calcification propensity T50 by phosphate binder therapy in 185 hemodialysis patients over 25 weeks.

## The benefits

#### Kidney patients:

Personalized, T<sub>50</sub>-Test-guided treatment to improve quality of life and survival rates.

#### Doctors:

Early detection of patients at an enhanced risk of calcification, and monitoring and guidance of their personalized treatments.

#### Diagnostic (central) labs:

Comparative differentiation potential leading to additional income.

## Health-care systems and health insurance providers:

Cost reduction by a reduction in other lab tests, hospitalizations, and the number of treatments for cardiovascular complications.

## Market & competition

Based on an estimate of over 60 million kidney patients (chronic kidney disease stage 3–5, dialysis, and kidney transplantation) in developed countries, and assuming an average of two tests per patient per year, we calculate a market volume of € 7.2bn for calcification propensity testing. Expansion to the general cardiovascular field is envisioned.

Importantly, the  $T_{50}$ -Test does not compete with today's lab tests, but rather complements them and thereby fills an important gap in today's diagnostic toolbox.

## Products & services



### Management team & advisors

The management team consists of two of the cofounders of CALCISCON – Matthias Meier (CEO), biologist and MBA, and Dr Andreas Pasch (CSO), medical doctor and inventor of the  $T_{50}$ -Test. Both bring to CALCISCON over ten years of experience, in industry, clinical work and research, respectively.

The management team is supported by the medical & scientific advisory board (www.calciscon.com), and by two professional business coaches, as well as by the team members' broad personal industry, medical and research networks.



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