

# calScreener™

Metabolic assays without label  
Research without limits



## Specifications

Detection principle	Symmetric differential heat flux calorimetry
Operating temperature	Ambient lab temp
Data sampling temperature	37°C
Data sampling	Continuous real time readout
Dimensions	(W x H x D; mm)
Measurement unit:	395 x 370 x 850
Control unit:	365 x 153 x 350 (depth including cables)

## calPlate™ assay microplate

Format	Standard microwell plate size
Samples	48 well; 32 samples & 16 internal references
	200-300ul media, adherent cells recommended. Suspended cells, yeast and bacteria in sedimenting solution also possible.
Sample volume	

## calView™ data acquisition software

Operating system	Windows XP, Vista, Win7
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## calResults™ data analysis package

Operating system	Windows XP, Vista, Win7
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## calPlate™ system

SymCel provides a complete solution of cell-growth consumables adapted for easy and reproducible cell growth and reliable measurements. The system takes into account both the requirements of the cell biologist and at the same time providing conditions for reliable measurements.

The calPlate™ system comes with standard size cell-growth plates pre-loaded with sterile sample cups and all necessary accessories for the measurement.

## Company info

SymCel aims at providing novel cell screening tools based on the well established calorimetry science. SymCel is a privately held biotechnology company located in the Kista region of Stockholm Sweden, a region well known for high tech telecom and med-tech industry development. With an extensive background in the field of calorimetry measurement and technology development Dr. Hallén founded SymCel in 2004. The current research team at SymCel has more than 60 years of experience from many disciplines within the medtech and biotech industry as well as the pharmaceutical development industry.

*SymCel*

For additional product or technical information please visit  
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# SymCel calScreener™ System

## Label-Free Cell Based Assays

### calScreener™ Overview

calScreener™ is the first commercially available multi-channel calorimetric system developed for cell based assays. Measurement of heat flux in living cells is a well established and proven technology to monitor changes in metabolic processes. CalScreener™ provides the researcher with a label-free detection tool with minimal or no assay development needed.

The versatility and speed makes calScreener™ suitable for a wide range of metabolic assay applications. calScreener™ detects changes in metabolic rate induced by addition of chemical or biological compounds and is a direct measurement of the resulting cellular processes. There is no need to have prior knowledge of metabolic pathways or mechanism of action to screen the effects of substances.

### calScreener™ Advantages:

- First Calorimeter designed for cell-biological work
- No assay formulation needed
- Measures heat from cell metabolism
- Label-free assay – no additives
- Prior knowledge of pathways and specific target function not needed
- Multiple compounds can be tested simultaneously for synergetic effects without knowledge of pathway interactions
- Suitable for a wide range of applications



Label-Free Cell Based Assays

*SymCel*

# calScreener™ System

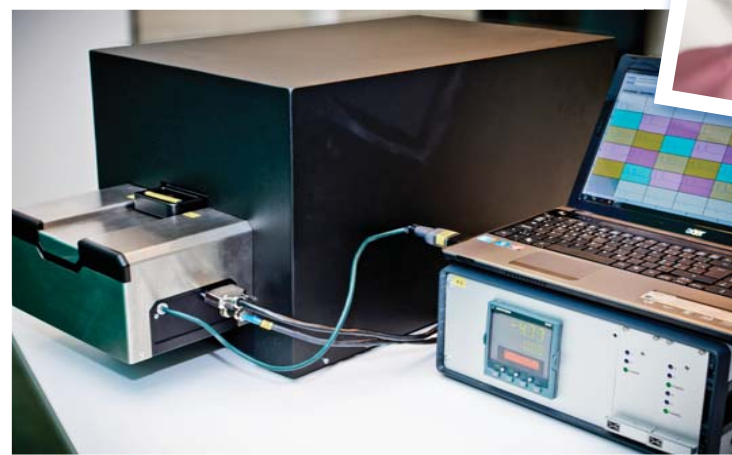
The calScreener™ system from SymCel provides researchers with a novel tool to measure the cellular metabolic response in a native environment.

calScreener™ is based on the measurement of thermogenic response in cultivated cells and is not dependent on any specific or cumbersome assay formulation. Since no addition of substrates or knowledge of the specific pathway or target is needed the time to results is greatly reduced as well as the cost for obtaining data.

The label free principle of obtaining data makes calScreener™ suitable for a wide range of cell-science applications. calScreener™ can be used as a screening tool applicable to different biological systems. All types of cultivated cells as well as yeast or bacterial cultures are suitable. calScreener™ measures thermal power which directly describes the metabolic rate. Both anabolic and catabolic processes are monitored.

The calorimetry principle is based on measuring the heat production changes induced by changes in the metabolism by chemical intervention of biological processes. Also other types of induced processes such as over-expression of proteins for pharmaceutical production, creates changes in the thermal output and can thus be monitored.

calScreener™ can be used for several types of applications where changes in metabolic rate are expected e.g. compound screening, lead substance optimization, bioavailability studies, cellular toxicity studies, biopharmaceutical process optimization, and antibiotics development.

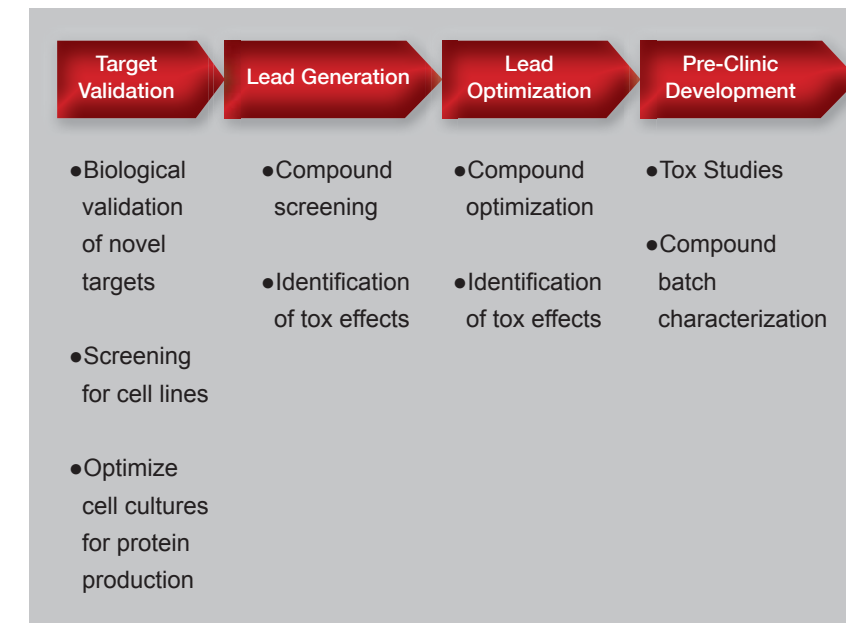


## calScreener™ Key Features:

- 48 well standard plate size adapted format
- Assay independent - no development needed
- Cell type independent
- Target independent
- Medium throughput format
- Analysis software solution provided

## calScreener™ application areas:

- Compound screening
- Lead optimization
- Tox studies
- Biopharmaceutical process optimization
- Antibiotics development
- Environmental monitoring



## calScreener™

- First Calorimeter designed for cell biological work.
- Measures heat from cell metabolism.
- Label-free assay – no additives.
- Decision tool in early development stages.

## Essential features

- Toxicology – Cell death is easy to recognize.
- Bioavailability – Are your compounds able to affect living cells?
- Are your compounds / factors acting synergistically
- Discern between different cellular processes such as apoptosis, necrosis and other processes in real time
- Continuous data monitoring takes the hassle out of finding suitable end-points

## Running experiments

- Easy-to-use.
- User-friendly interface showing emerging data from all wells simultaneously
- Real-time data. Allows for continuous monitoring.
- Total time for an average experiment is 3–4 hours.

## Assay and analysis

- Minimal assay development needed.
- Minimize the requirements for experimental time.
- Easy-to-use analysis software, with a lot of built-in tools.
- Non-destructive –downstream analysis possible
- Low cost