

## CALCI-QUICK: A cell culture model for vascular calcification propensity

### BACKGROUND

Pathological calcification processes in the human body are often the beginning of a series of diseases which relate to organ systems such as the vascular system of the heart, and kidney. As a consequence of metabolic diseases such as diabetes, calcification processes can lead to severe impairments of health or to death. Therefore, it is of scientific and economical interest, to develop new approaches for quick and inexpensive treatments of these diseases.

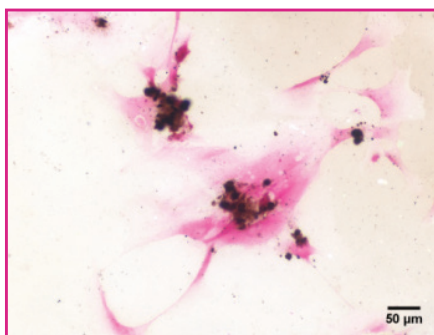
Already known calcification biomarkers (osteoprotegerin (OPG), matrix gla protein (MGP), fetuin A and alkaline phosphatase AP, transcription factor Cbfa-1, FGF23, Klotho ) provide an indication of occurring calcification processes but still can't make a statement about **triggering factors**, which will be possible with our in vitro calcification model, CALCI-QUICK.

### COMPETITIVE ADVANTAGES OF CALCI-QUICK:

- hydroxyapatite sensitive
- inexpensive method
- quick and easy to use
- detection of very early on-going calcification processes
- detection of new biomarkers which indicate the stage of calcification
- basis for development of new diagnostics
- uncovering the mechanism of action of calcification inhibitors, eg. zoledronat



Human smooth muscle cells,  
both: Kossa Staining  
(visualization of calcium deposits),  
200x



Calcified human smooth muscle cells

### REFERENCE:

541.14

### IPR:

EP Patent filed: 15.10.2015  
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### COOPERATION OPTIONS:

- Development partnership
- License agreement
- Patent sale

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