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UITNODIGING
Voor de openbare verdediging van het
doctoraatsproefschrift van

Ying CAI

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Beta cell dysfunction and death play central roles in the development of diabetes mellitus. It is thus important to explore causes of these processes in (patho)physiological conditions. The thesis by Ying Cai studies the effect of in vitro culture conditions on the function and survival of insulin producing beta cells. These culture conditions have in common that a particular energy-stress sensor (AMP-activated kinase) is activated.

The first panel of this study shows that activation of AMPK in beta cells leads to loss of glucose-responsiveness and, subsequently, to apoptosis. The second panel demonstrates that AMPK-mediated apoptosis involves mitochondrial dysfunction and generation of oxygen free radicals. Finally, the work indicates novel ways to suppress dysfunction and death of beta cells in vitro.

Ying CAI was born on 8th July, 1973, in Shenyang, China. She obtained her MD diploma at the Nanjing Railway Medical College (1996). She was a resident in neurology at the Chinese Medical University Hospital (1996-2000). She obtained the degree of Master in Medical and Pharmaceutical Research, at the VUB (2002). In 2003 she initiated her PhD research on regulation of beta cell function and survival, in the Diabetes Research Center, at the VUB. In 2008, she joined the Beta Cell Neogenesis research group at the VUB. Ying CAI is first author on 2 articles published in international peer-reviewed life science journals.