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Use of zebrafish embryos to elucidate and target disease mechanisms in vivo

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A whole organism high-throughput screening system will be introduced used to study the progression of tuberculosis. Our system is capable of screening for disease progression via robotic yolk injection of early embryos and visual flow screening of late-stage larvae. Recently, injection of panels of poorly- versus highly malignant cell lines derived from breast, colorectal, and prostate cancer into zebrafish embryos have shown to correlate to long-term rodent xenograft models and mouse models.

Currently, we are studying how such an automated quantitative whole animal assay can serve as a first-line in vivo screening step in the anti-cancer drug target discovery pipeline.

Biography

Jan de Sonnevile done Bachelors in Electrical Engineering, Delft University of Technology (TUDelft), Master in NanoScience (Applied Physics), given as joint program by TUDelft and Leiden University, the Netherlands (2006). PhD on the development of four novel research methods for Cell Biology, thesis title: "Reinventing microinjection, new microfluidic methods for cell biology" (2011). Founded Life Science Methods BV to sell Automated Microinjection Systems for high throughput screening using cell spheroids and zebrafish embryos (2011).

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