

Pharmaceuticals – Medicine – Biology – Cosmetics | Technology Offer

Screening System for Anti-Aging Substances

A new screening procedure for the identification of anti-aging substances has been developed at Heidelberg University. The procedure is based on a cell culture model and a fruit fly model to test for the organismic aging. In this way it is possible to quickly and effectively test the real potency of potential candidate substances.

Market

Of great commercial significance is the rapid screening for anti-aging substances particularly for the cosmetics and pharmaceutical industries in the area of preventative health care. However it can also have the potential to allow progress in dealing with some rare diseases such as progeria and the Werner syndrome because the aging model has the flexibility to be genetically adapted.

Aging of cells

Cellular aging involves for example changes in nuclear morphology, changes in the chromatin formation, DNA damage and modifications of organelles. Anti-aging substances are meant to act against these cellular changes and thus slow down the aging process.

Current technology status

Screening for anti-aging substances requires a functioning aging model. At present, cellular changes due to aging are studied in healthy human cells, e.g. in primary cultures of tissue from old people, or from people suffering from progeria (Hutchinson-Gilford syndrome). The downside of this approach is that the age-typical changes due to cellular aging only appear after multiple passages through the cell culture. The cells are not immortalized and in addition their growth is quite heterogeneous. These cells are therefore not directly comparable with such used in other approaches.

Patent Status

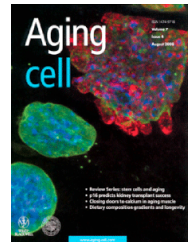
A European and an international patent application covering this novel screening system are pending.

Technology transfer

The Technologie-Lizenz-Büro (Technology Licensing Office) GmbH is charged with the commercialisation of this technology and now offers companies an opportunity to enter into a licensing arrangement.

Innovation

The test procedure was in the first instance established in vivo and in vitro by the targeted introduction of aging genes into the cell which induce typical aging signs within 24 to 48 hours.



This cell based aging model provides the basis of a screening procedure which can test potential anti-aging substances effectively and rapidly. Complementing this cell culture based model, it is possible to test the organismic effect of the substance in the fruit fly model.

The aging models used in the process:

- express age typical cellular changes within 24 to 48 hours.
- have a life span which is up to 70% shorter than normal fruit fly strains.

The testing procedure

- Preselection of candidate anti-aging substances, leading to a downscaling of the screening process
- Rapid and effective screening
- Unique, there is no other comparable test available
- Simple, rapid and cost effective implementation

The market

- Given the current demographic development, the potential market is constantly increasing
- Anti-aging preparations are a growing trend in industrialized countries

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