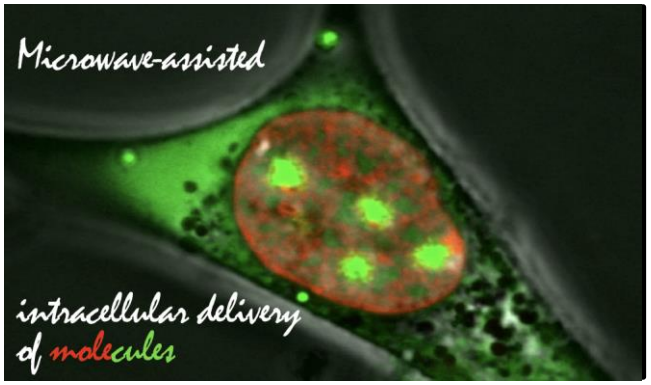
Microwaveporator

Microwave-assisted transfer method allows delivery of any substance into any cell



Status quo

The transfer of substances enables scientists to observe reactions in cells or to have products manufactured by cells. This fact makes technologies for the transfer of substances into cells indispensable. In contrast to chemical or biological methods, physical methods are not limited in the spectrum of substances that can be transferred. However, the treatment of cells causes considerable cellular stress and thus leads to high cell mortality.

Our technology: Microwaveporator

Our new microwave-assisted transfer method allows the rapid and direct introduction of any substance into any cell and makes use of a different physical principle. The lack of pre-treatment keeps the cells in their native state and allows not least that samples with a limited number of cells (e.g. primary patient cells) can be investigated.

Benefits

- ✓ Reduction of cell stress
- ✓ No cell suspension required
- ✓ Realtime cell monitoring

Application possibilities

Our technology is not only applicable in basic research labs but also in applied and biomedical research, including biotechnological applications. In fact, its usefulness encompasses any process where intracellular delivery of substances and drugs are needed.

Commercialization opportunities

There are various possibilities for cooperation between the industrial partner and TU Darmstadt: from an exchange with the know-how carriers of the technology up to a close cooperation in case of further development needs. The technology is protected by intellectual property rights and can be used by the industry partner after a sale or licensing agreement.

Current stage of development Technology Readiness Level (TRL)

9	Product ready to launch
8	
7	
6	Prototype
5	
4	
3	Proof of Concept
2	
1	Idea

The technology development is at Level 3-4:

So far, we developed two different designs of demonstrators and tested successfully multiple cell types and several substance types for their intracellular delivery.

Your contact partners at TU Darmstadt

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