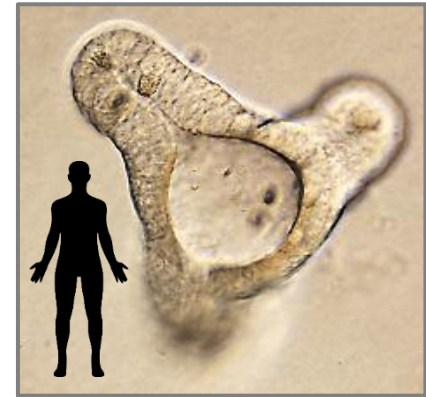


Wissenschaft im Wandel:

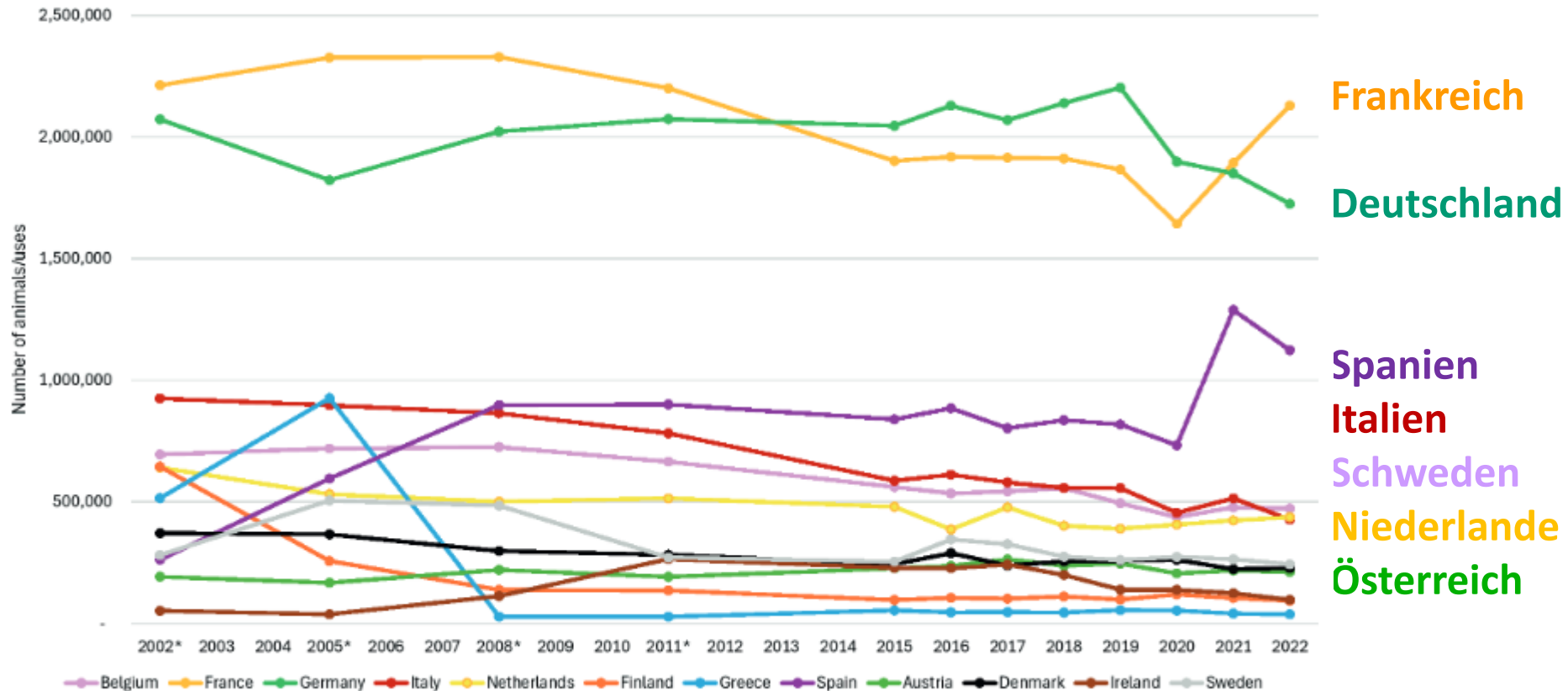
Die Zukunft forscht tierversuchsfrei



Jahresforum der Tierschutzombudsstelle Wien, 7. Oktober 2026

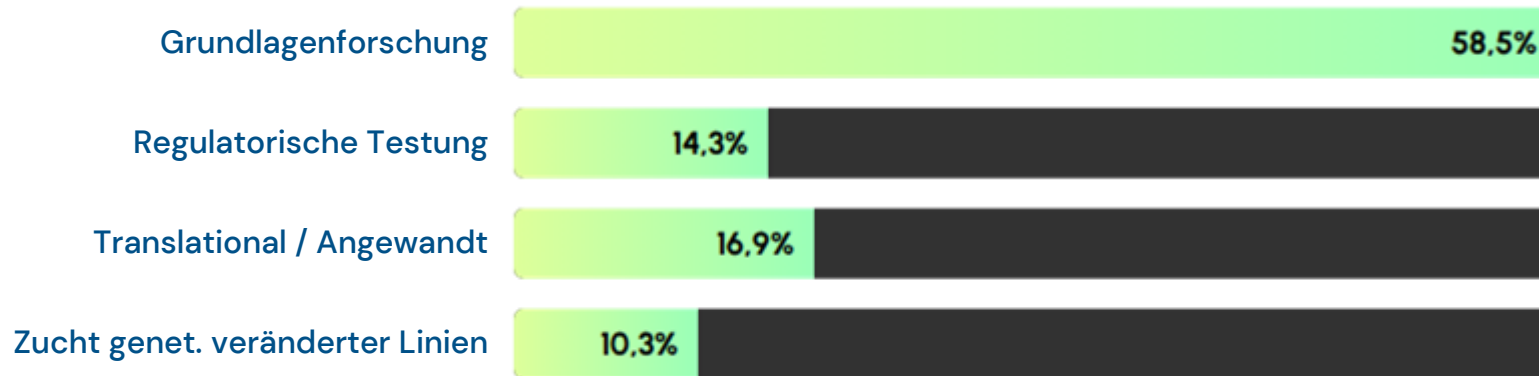
Zahlen

Versuchstierzahlen in der EU



Tierversuche: Wissenschaftliche Zwecke

Deutschland 2024



Biomedizinische Grundlagen-Forschung

Ernährungsphysiologie - “Tiermodelle”

Orale Applikation per Schlundsonde



Diabetes / Adipositas



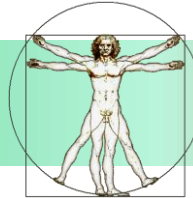
Diabetes T1



Forschungsmodelle



Größte Humanrelevanz



**Ethische & formelle Hürden
Erforschung mol. Prozesse limitiert**



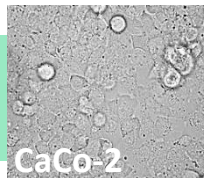
**Systemische Effekte
„Goldstandard“ in der GLF**



**Teuer & langwierig
Mangelnde Übertragbarkeit**



**Einfaches Handling & Hochdurchsatz
Zeit- & Kosten-effektiv**



**Simple und artifiziell
Benötigt meist FKS**



2011: Der Durchbruch

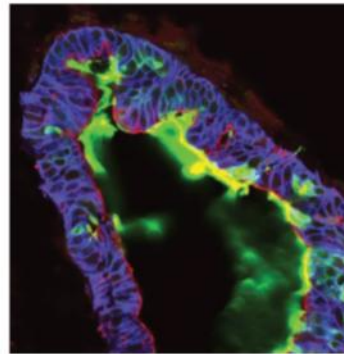
RESEARCH HIGHLIGHTS |

STEM CELLS

Differentiation in three dimensions

Pluripotent stem cells form intestine-like structures *in vitro*.

The goal of most stem cell differentiation protocols is to produce homogenous populations of the right sorts of cells: for example, hepatocytes such as those normally found in the liver. For some protocols, however, the goal is to generate a three-dimensional structure of several specialized cell types arranged in a precise architecture. Reporting in *Nature*, researchers led by James M. Wells at the Cincinnati Children's Hospital Medical Center describe a way to coax human pluripotent stem cells (PSCs) into three-dimensional 'organoids' made up of multiple kinds of cells with a similar spatial organization found in nature.



Intestinal organoids derived from pluripotent stem cells produce functional cells. Image courtesy of James M. Wells.

found a combination of these proteins was essential for differentiation. After a few days of exposure to these proteins, sheets of flat endoderm cells rolled up into tubes reminiscent of embryonic hindgut. Many of the tubes budded off to form spheroids. After about four more weeks in three-dimensional culture conditions known to favor intestinal growth, the spher-

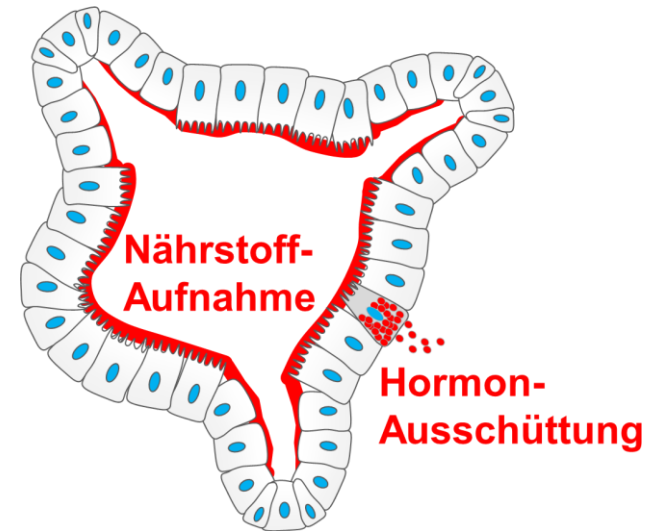
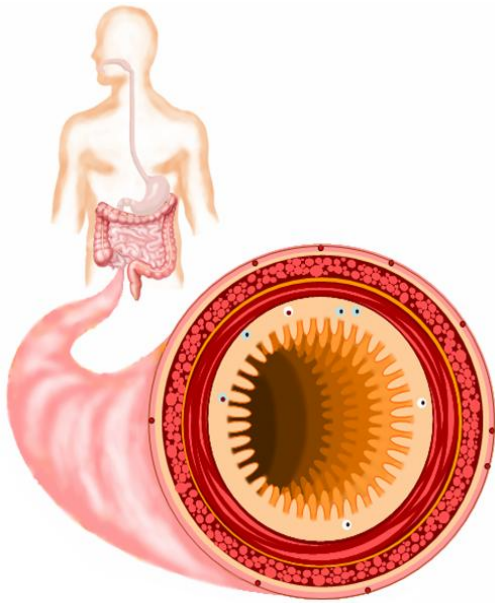
oids developed organized layers of highly specialized cells and grew to about 40 times the original mass of the spheroids. They were still relatively spherical but highly convoluted.

The differentiation technique worked on two of the most commonly used human embryonic stem cells as well as four human induced PSC lines. Organoids could be pas-

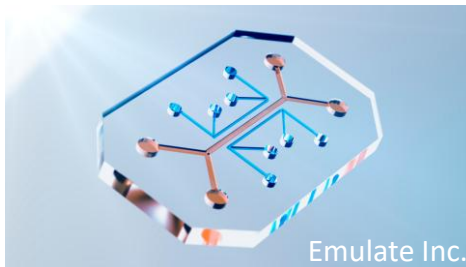
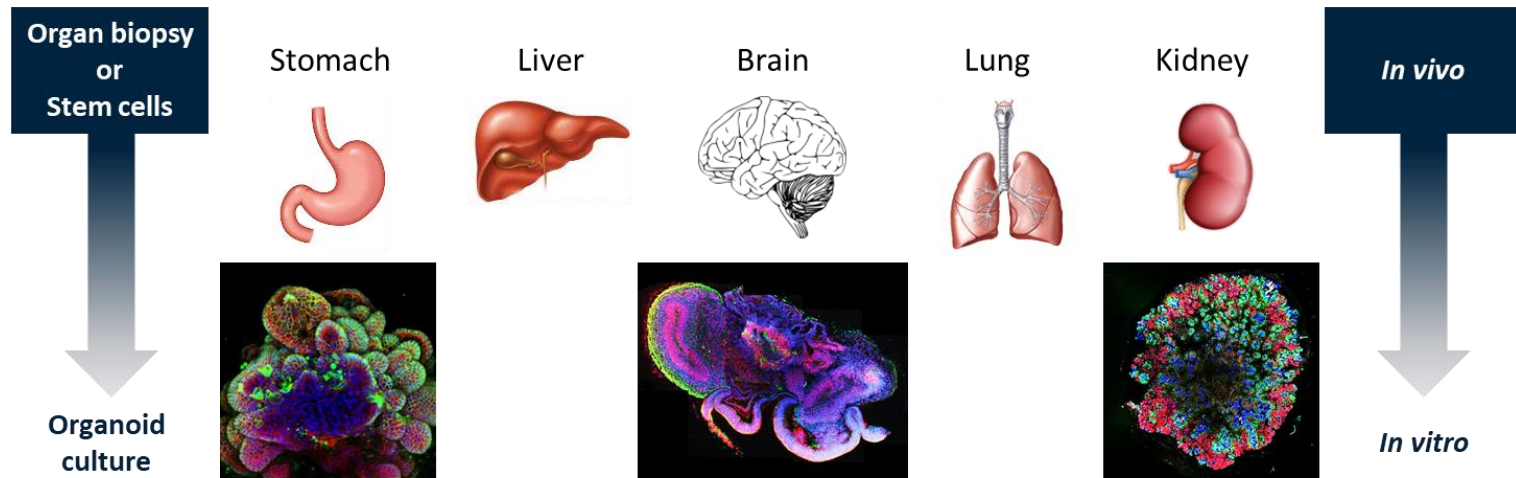
2012-2015: Der Umstieg



Dr. Eva Rath, TU München



2026: NAMs - New Approach Methodologies



in silico Modelle
Künstliche Intelligenz

Mikrophysiologische Systeme
in vitro & *in chemico* Modelle

Medikamenten- Entwicklung & Sicherheits-Testung

Medikamenten-Entwicklung

Präklinische Testung



Klinische Phase I-III



Registrierung & Vermarktung

Safety & Efficacy



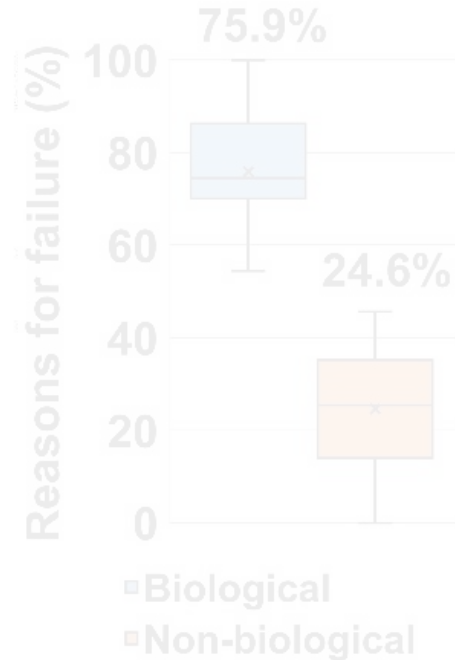
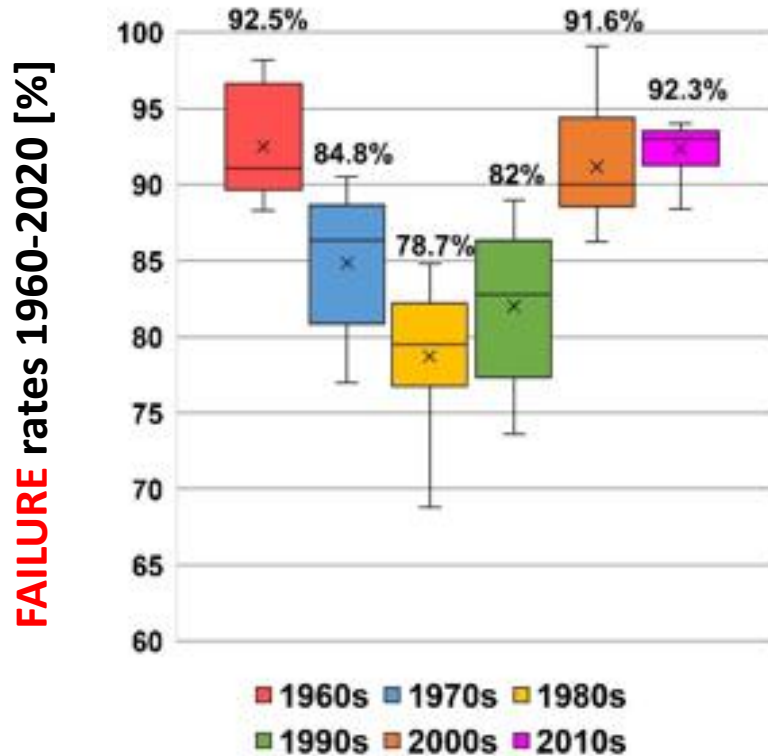
Safety & Efficacy



< 10%

Erfolgs-Quote

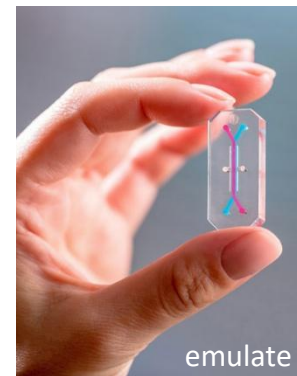
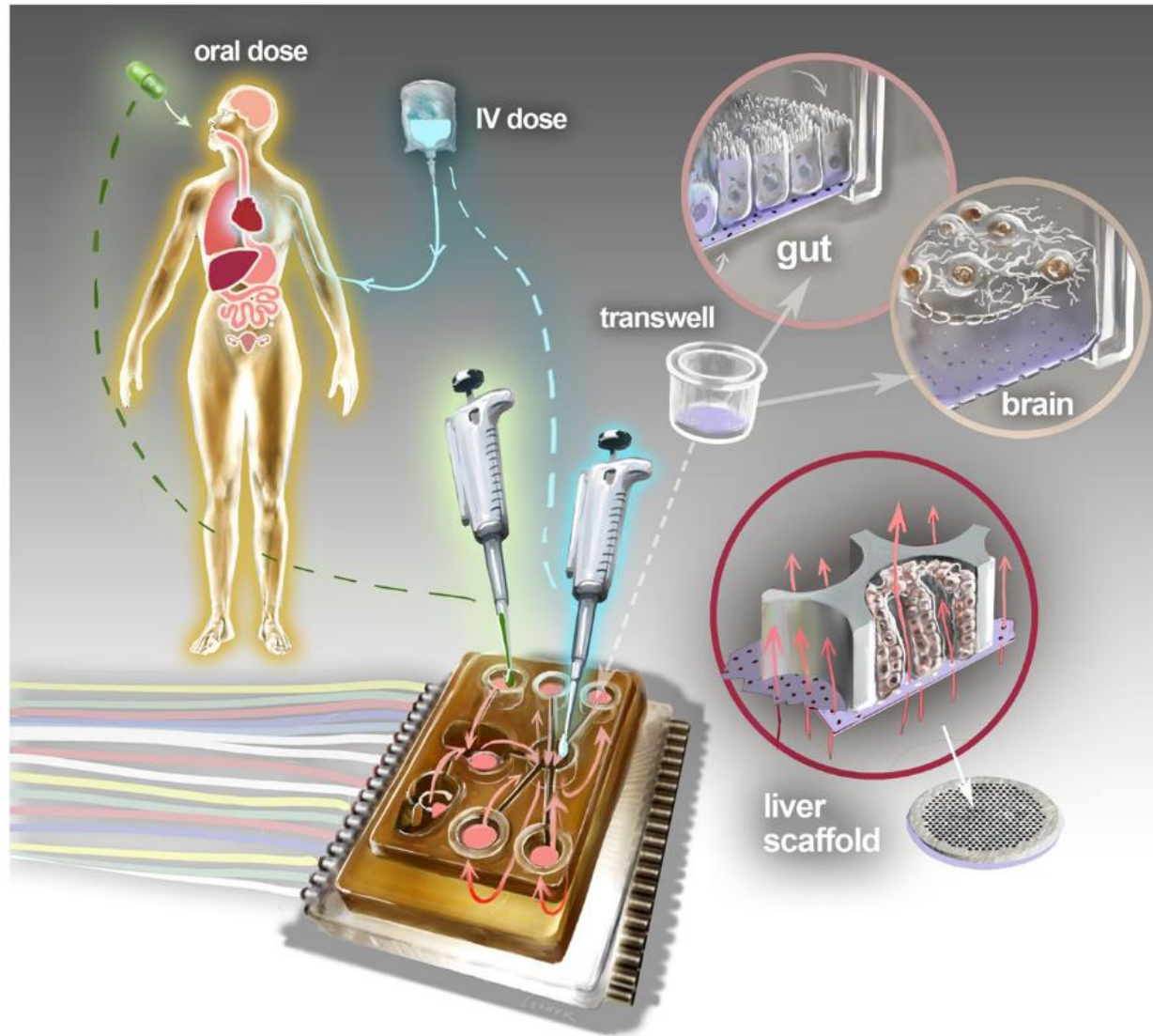
DURCHFALL-Quoten: Systematische Analyse



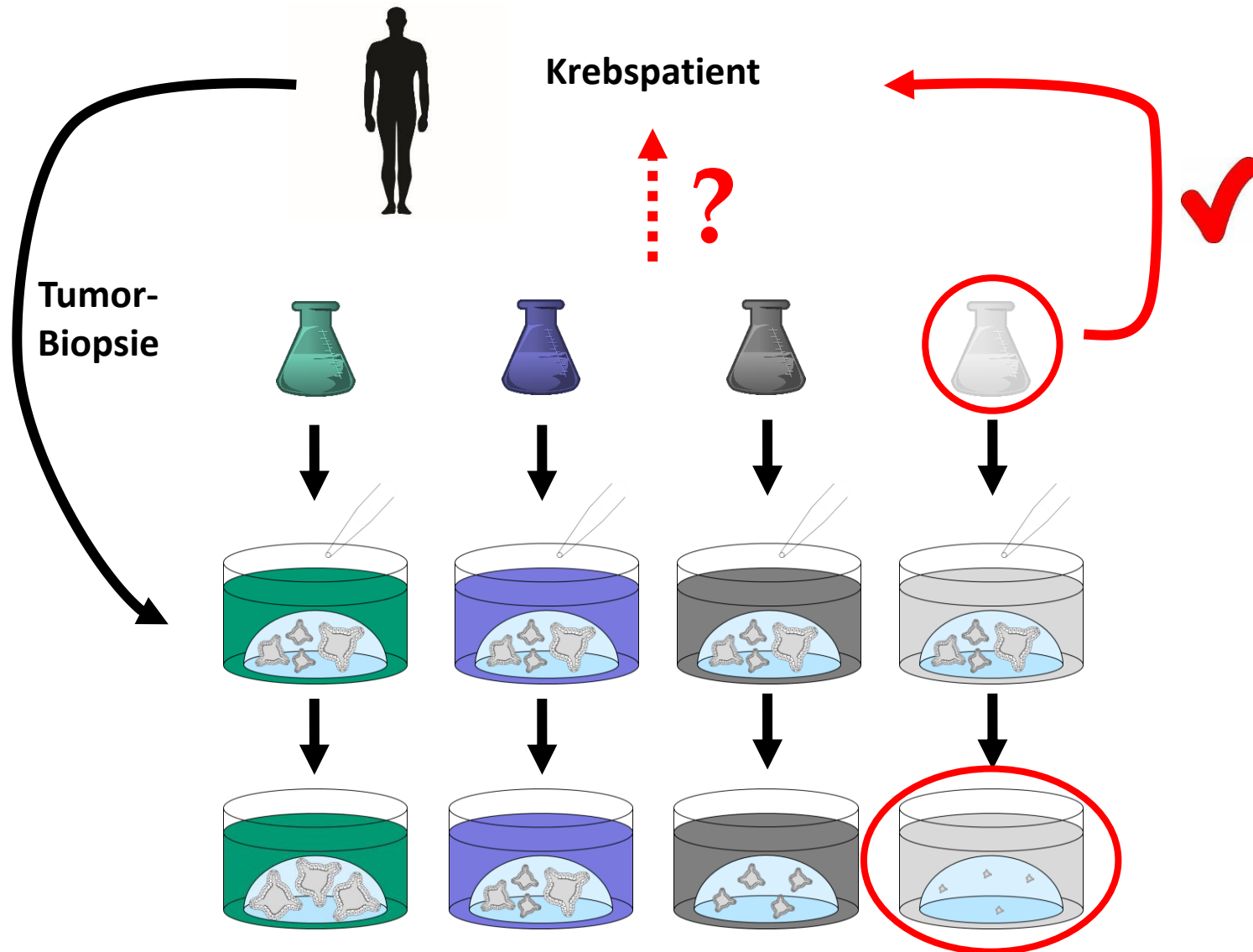
Durchfall-Quote: 92 %

**Mangelnde
Übertragbarkeit**

Organ-on-a-Chip (10 Organe)



Personalisierte Medizin



Pharma-Industrie setzt auf NAMs



ACTION PLAN FOR COMPANIES

to accelerate the transition
to non-animal science in the
pharmaceutical sector

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This action plan is supported by 

Wind of Change

Paradigmen-Wechsel in der EU

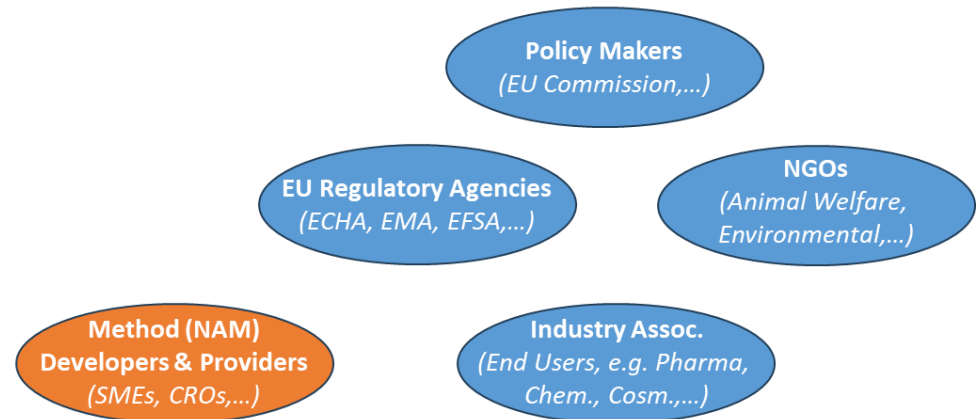
2022: European Citizen's Initiative



2023-2026: EU Roadmap for AF-CSA



Seit 2026: Implementierung



ERA Action zur Förderung von NAMs



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New European Research Area policy agenda includes NAMs

 Posted on 2025-06-02

ERA Policy Agenda 2025-2027

“Policy action on NAMs
for biomedical research
and testing of pharmaceuticals”

Paradigmen-Wechsel in den USA



FDA NEWS RELEASE

FDA Announces Plan to Phase Out Animal Testing Requirement for Monoclonal Antibodies and Other Drugs

For Immediate Release: April 10, 2025



Strategic Plan to Reduce the Use of Vertebrate Animals in Chemical Testing

Below is EPA's Strategic Plan to Promote the Development and Implementation of Alternative Test Methods, the 2021 List of Alternative Test Methods and Strategies (or New Approach Methodologies [NAMs]) per TSCA Section 4(h)(2)(C), the Federal Register notice announcing the availability of the plan, and the Agency's response to comments received on the draft plan.



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Tuesday, April 29, 2025

NIH to prioritize human-based research technologies

New initiative aims to reduce use of animals in NIH-funded research.

Politische Ausstiegskonzepte weltweit

USA



EU



Kanada



Niederlande



Australien



England



Umstieg auf NAMs, weil...

- ✓ **Prädiktiver** für humane Biologie (z.B. Krankheit-Erforschung, Medikamenten-Entwicklung)
- ✓ **Wirtschaftlicher** (bessere Vorhersagekraft und Reproduzierbarkeit, schneller)
- ✓ Mehr **Fortschritt** und **Sicherheit** für die menschliche Gesundheit und Medizin
- ✓ **Innovativ** und **ethisch verantwortungsvoll**

Unsere Datenbanken zu Tierversuchen und NAMs



www.NAT-Datenbank.de



www.TTV-Datenbank.de



www.NAT-works.de

Kontakt:

Dr. Tamara Zietek
Geschäftsführerin Wissenschaft
Ärzte gegen Tierversuche

zietek@aerzte-gegen-tierversuche.de

DANKE!



0 μm 250

Weltweite Roadmaps

Ref	Roadmap (region, author, date)	Author type	Roadmap purpose	Motivation	Scope	Future-Present and Evolutionary-Revolutionary	Phase-in or out
1	A non-animal technologies (NAT) roadmap for the UK (UK Innovate, 2015)	National advisory/ research/ funding body(s)	To establish a vision for NATs in the UK, and to identify the processes that must be applied to realise it.	Internal - economics	Safety and efficacy testing- all sectors	Future Evolutionary	Phase-in
2	Roadmap for animal-free innovations in regulatory safety assessment (NL, RIVM, 2018)	National advisory/ research body	To describe the steps required to facilitate the transition to animal-free safety assessment	External- political request	Safety testing - all sectors	Future Revolutionary	Phase-out
3	Strategic plan to promote the development and implementation of alternative test methods within TSCA (US EPA, 2018)	Federal regulatory agency	To outline its Strategic Plan for the reduction of testing in vertebrates for chemicals regulated under TSCA.	External –legislative request	Safety testing- chemicals	Present Evolutionary	Phase-in
4	A Strategic Roadmap for Establishing New Approaches to Evaluate the Safety of Chemicals and Medical Products in the United States (US ICCVAM, 2018)	Federal advisory body	To expedite the development and use of NAMs that provide information more relevant to human health than existing animal-based methods	Internal- validation issues	Safety testing - all sectors	Present Evolutionary	Phase-in
5	EPA New Approach Methods Work Plan (US, EPA, 2020)	Federal regulatory agency	To describe its roadmap and identify tangible steps to pursuing and achieving these reduction goals	External – political request	Safety testing – chemicals, pesticides	Present Evolutionary	Phase-out
6	Development of a roadmap...(EU EFSA, 2022)	European regulatory agency	a multi-annual strategy for increasing the use of NAMs in EFSA human health risk assessment to minimise the need for animal-based verification studies	Internal – political and scientific developments	Safety testing- food, pesticides	Present Revolutionary	Phase-in
7	Non-animal models: A strategy for maturing Australia's medical product development capabilities (Australia CISRO, 2023)	Federal research body	To assess the potential of emerging non-animal models to complement or replace traditional approaches in medical product development over the next 15 years	External – political request	Safety and efficacy testing- medicines	Present Evolutionary	Phase-in
8	Roadmap to reducing animal testing in preclinical safety studies (US FDA, 2025)	Federal regulatory agency	To outline "a strategic, stepwise approach for FDA to reduce animal testing in preclinical safety studies with scientifically validated new approach methodologies (NAMs), such as organ-on-chip systems, computational modelling and advanced in vitro assays."	External – legislative changes	Safety testing - medicines	Future Evolutionary	Phase-out
9	Strategy to reduce, replace, refine animal testing under Canadian Environmental Act (Canada, HC/ECCC, 2025)	Federal regulatory agency	"To guide Health Canada and Environment and Climate Change Canada efforts aimed at achieving the goal of replacing, reducing or refining the use of vertebrate animal testing under Canadian Environmental Protection Act in an iterative and progressive manner when and where possible"	External – legislative changes	Safety testing- chemicals	Present Evolutionary	Phase-in
10	Replacing animals in science: A strategy to support the development, validation and uptake of alternative methods (UK, gov, 2025)	Government	To lay out the steps the Government will take over the next five years to create a revolutionary research and innovation system that replaces animals with alternative methods wherever possible.	External- political request	All experiments	Present Evolutionary	Phase-out
11	Roadmap towards phasing out animal testing for chemical safety assessments (EU, COM, 2026)	Executive branch of EU	To set out the clear objective and concrete steps needed to transition from traditional animal testing methods to innovative non-animal approaches	External – public request	Safety testing – all sectors	Present Evolutionary	Phase-out