RSNN Regulatory Science Network Netherlands

Regulatory Science and Regulatory Science Network Netherlands

9 December 2025

Vereniging Innovatieve Geneesmiddelen

CBG MEB

umcg

ccmo

Universiteit Utrecht

lygature pioneering medicine. together.

Regulatory Science Research

- Two principles:

1. **System improvement**
2. **Innovation**

"Involves answering questions such as:
Are we doing things properly?
Do adjustments need to be made on the basis of new knowledge?
Are we prepared, based on our current knowledge and expertise, for change and innovation?"

MEB Science Policy 2025-2029

Replacement, Reduction & Refinement of Animal Studies

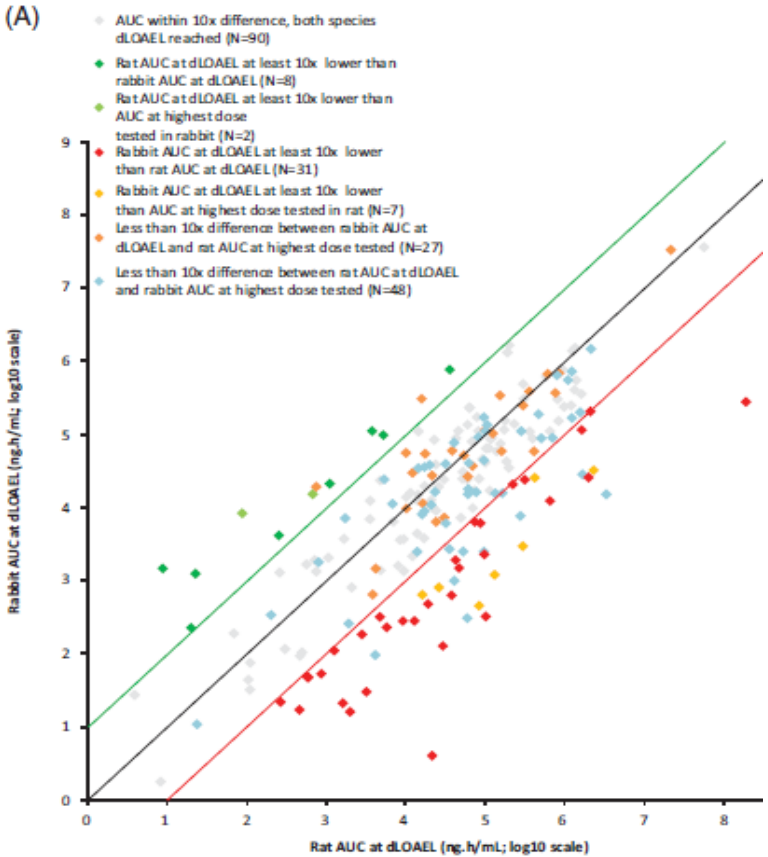
Data-driven assessment

Personalised medicine

New pharmaceutical legislation

ICH S5: Rat and rabbit developmental toxicity testing. Do we need both?

- Since thalidomide, 2 species reproductive toxicity testing is required (rat+rabbit).
- **Are both species needed?**
- **From phase 1 onwards, ICH S5** requires a EFD DRF, later embryofetal development in both species
- Analysis of ~380 pharmaceuticals with rat and rabbit data (including failed products)
- Rat and rabbit are relatively equal in sensitivity (NOAEL, LOAEL and HED).
- Also severity incidence is similar



Theunissen et al. Crit Rev Toxicol. 2016 Nov;46(10):900-910
Theunissen et al. Crit Rev Toxicol. 2017 May; 47(5):402-414

ICH S5: Rat and rabbit developmental toxicity testing. Do we need both?

- If they are comparable, you should be able to use just one species
- New ICH S5R3 revision proposes exactly that!
- **1 species DRF + (advanced) in vitro studies are sufficient before phase 3 + safety measures in phase 1/2**

CRITICAL REVIEWS IN TOXICOLOGY
2024, VOL. 54, NO. 9, 619–633
https://doi.org/10.1080/10408444.2024.2374281

Taylor & Francis
Taylor & Francis Group

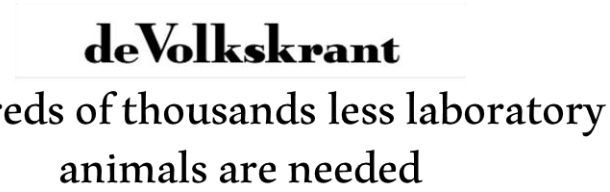
REVIEW ARTICLE

OPEN ACCESS Check for updates

Evaluation of rat and rabbit embryofetal development studies with pharmaceuticals: the added value of a second species

Puck Roos[a], Caroline Anggasta[a], Aldert H. Piersma[b,c], Peter J.K. van Meer[a,d,e*] and Peter T. Theunissen[a,d*]

[a]Dutch Medicines Evaluation Board, Utrecht, the Netherlands; [b]Centre for Health Protection, Dutch Institute for Public Health and the Environment (RIVM), Bilthoven, the Netherlands; [c]Institute for Risk Assessment Sciences (IRAS), Faculty of Veterinary Medicine, Utrecht University, Utrecht, the Netherlands; [d]Department of Pharmacology and Toxicology, Radboud University Medical Center, Nijmegen, the Netherlands; [e]Department of Pharmaceutics, Utrecht Institute of Pharmaceutical Sciences, Utrecht University, Utrecht, the Netherlands



Regulatory Science Network Netherlands (RSNN) was founded in 2015 as a Multistakeholder* Platform

Why?

To facilitate knowledge exchange about regulatory system and science to stimulate access to new, effective, and safe therapies

What?

To contribute to an efficient and effective regulatory system for the development, marketing authorisation, access, and appropriate use of medicines.

How?

1) **Bundling** expertise;
2) Knowledge **exchange** and **dissemination**;
3) **Agenda-setting** for regulation and regulatory science;
4) **Involved** in relevant (inter)national regulatory science discussions;
5) **Catalyzing** regulatory science

RSNN

*Academia, Regulators/Authorities, (Bio)Pharmaceutical industry, Patient Organizations

All stakeholders together set the RSNN agenda

- Steering committee
  - Six members with three co-chairs representing academia, industry, and regulator
  - Partnership leader from the independent foundation Lygature
  - Monthly meetings for day-to-day management

- Advisory Board
  - 21 members
  - Bi-annual meetings providing guidance to the Steering Committee
  - Are the “antennae” in the regulatory field

Activities RSNN

- RSNN Annual workshop
  - To identify new research questions and stimulate network activities within the (Dutch) regulatory science field
  - Discussing a hot topic involving the entire ecosystem
    - ***18 November 2025:*** *One arm, many challenges: the role of single-arm trials in regulatory and clinical context*

Activities RSNN

- **RSNN Expert meetings** (3-4 times/year, 15-20 experts)
  - To facilitate discussions between experts and stakeholders; present-day discussion topics in which the RSNN provides a rapid and effective contribution to opinion forming.
    - *New Approach Methodologies*
    - *Addressing the Framework of Unmet Medical Need*
    - *Regulator-initiated Studies for Regulatory Decision-Making: Scenarios and Learnings*
    - *Dutch Clinical Trial Landscape*

REPORT OF THE RSNN EXPERT MEETING NAMS 23 MAY 2023: FACILITATING HUMAN RELEVANT SAFETY ASSESSMENT OF MEDICINAL PRODUCTS: TOWARDS IMPLEMENTATION OF NEW APPROACH METHODS (NAMS).

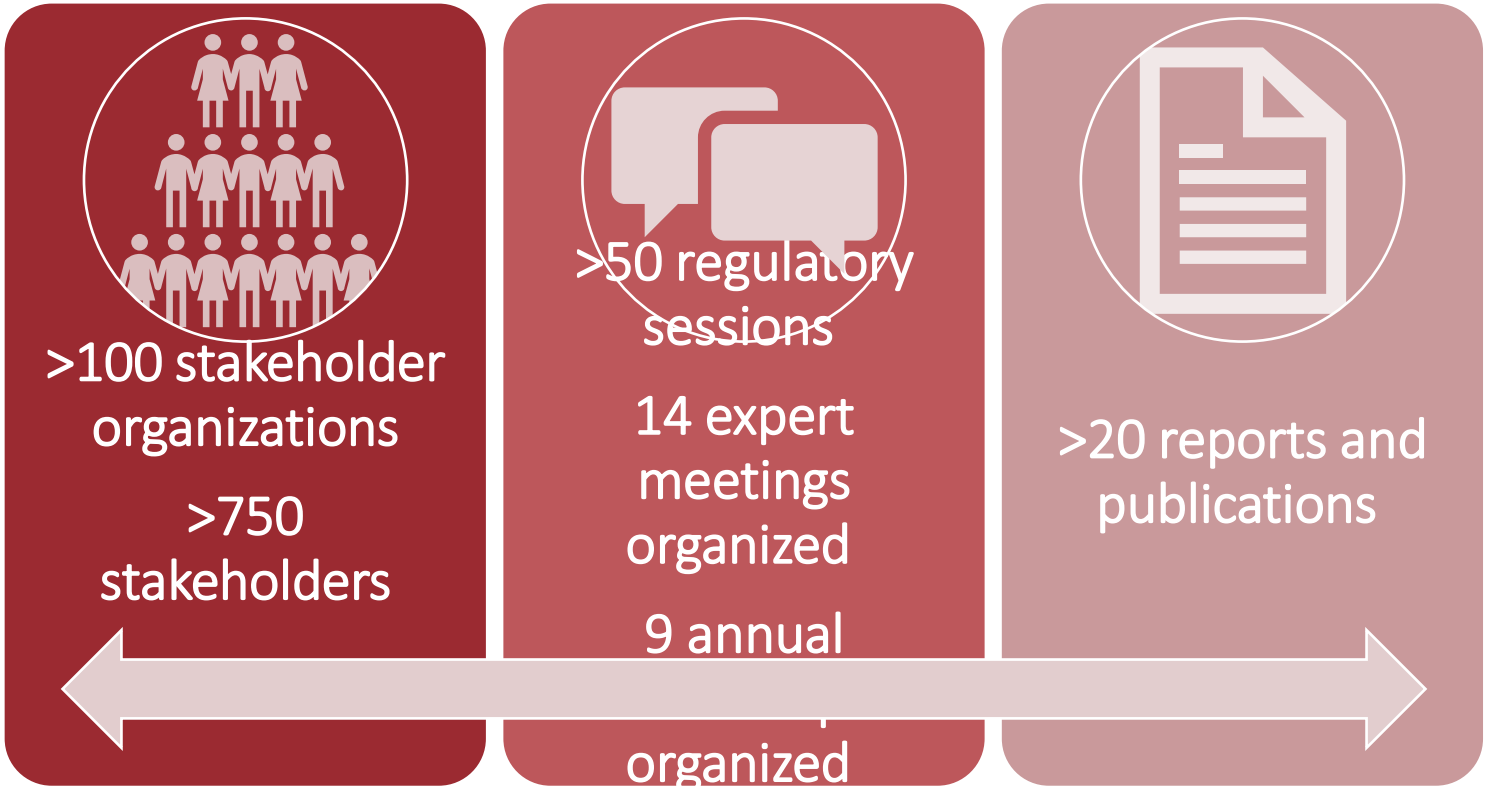
BACKGROUND

For decades, efforts have been undertaken to accelerate the development of New Approach Methodologies (NAMs) such as complex *in vitro* methods like Organ-on-Chip, 3D tissue engineering, organoid cultures and stem cell technologies, and artificial Intelligence-based analyses,. NAMs are considered to improve risk assessment decisions, as they can deliver more accurate, reproducible, and cost-effective results with greater human relevance compared to animal studies. As such, NAMs can help to reduce and/or replace the use of animals in safety testing (Turner et al., 2023).

Activities RSNN

- RSNN Special Interest Groups
  - Advanced therapy medicinal products (ATMPs)
    - *The RSNN SIG Advanced Therapies aims to facilitate knowledge development and knowledge sharing about ATMPs and their regulation.*

Key Facts 10 Years RSNN



European Platform for Regulatory Science Research

Share

The European Platform for Regulatory Science Research brings together academia and regulators to advance research in regulatory science. Research in this field enhances the development and evaluation of medicines. It enables faster patient access to safe, effective, and high-quality medicines.

Human | Veterinary | Innovation

Page contents

This content applies to both human and veterinary medicines.

The **European Platform for Regulatory Science Research** facilitates collaboration between academic researchers, not-for-profit researchers, regulators, and other relevant stakeholders.

Medicine developers and regulators apply **regulatory science** in the research, development and evaluation of **medicines**.

The platform's aim is to advance research for new regulatory tools, methodologies and approaches that medicine developers and regulators use throughout a medicine's lifecycle to support their regulatory decisions.

Utrecht University

CBG MEB

COLLEGE TER BEOORDELING VAN GENEESMIDDELEN

Regulatory Science CBG-MEB LinkedIn

science@cbg-meb.nl