National Center for Advancing Translational Sciences

Assay Guidance Manual Program

Rapid advances in basic research have led to innovative therapeutic approaches to address unmet medical needs. Yet, a large gap exists between basic research and the translation of those fundamental insights into therapeutics. The Assay Guidance Manual (AGM) Program at the National Center for Advancing Translational Sciences (NCATS) is a translational science initiative that aims to help bridge this gap.

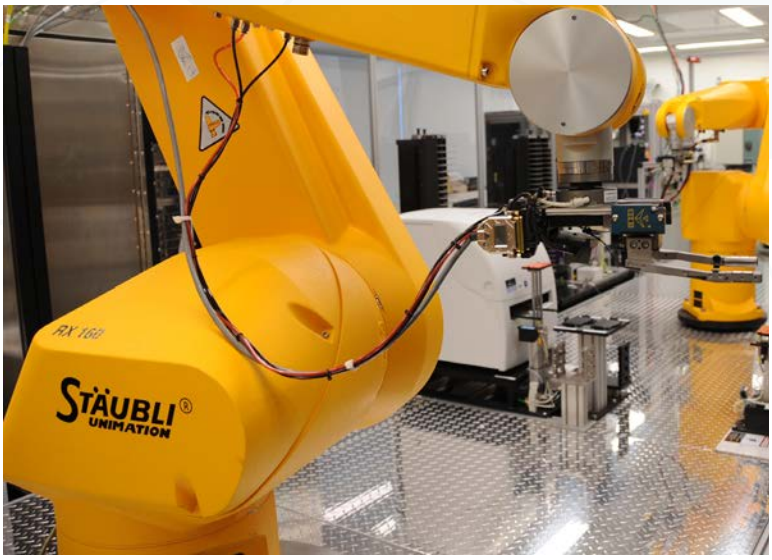
The AGM Program is a world-class source of guidelines and best practices for advancing translational science and research in the preclinical development of novel therapeutics and offers training and insight for those desiring to become translational scientists. This program provides scientists with community-developed laboratory best practices in early translational research, including robust assay development, analytical technologies, data analysis tools and preclinical drug discovery standards. The program also aims to help the preclinical drug discovery workforce understand the value of robust, reproducible and replicable results. The AGM Program provides multiple publicly available resources to accomplish these goals, including the AGM eBook, workshops, webinars and collaborative research opportunities.

AGM eBook

The AGM eBook originated from a guide for therapeutic project teams at Eli Lilly and Company in the 1990s, based on internal proprietary knowledge assembled from experts spanning multiple therapeutic disciplines. This early version was shared with NCATS and has since been completely rewritten and has evolved into a dynamic eBook that contains best practices in preclinical drug discovery. The AGM eBook is free and publicly available from the National Library of Medicine. This resource has become very popular over time, receiving more than 1 million accessions in 2025, with contributions from more than 100 scientists from industry, academia and government agencies worldwide. Chapters provided by contributing authors are peer reviewed, receive PubMed IDs and are considered scientific publications. Individuals interested in contributing to the AGM eBook are encouraged to contact us to discuss opportunities.

Popular AGM Chapters

- Cell Viability Assays
- Immunoassay Methods
- Cytotoxicity Assays: *In Vitro* Methods to Measure Dead Cells
- Mechanism of Action Assays for Enzymes
- Basics of Enzymatic Assays for HTS



(NCATS)

AGM Workshops

The AGM Program hosts in-person and virtual workshops on high-throughput screening and lead discovery, as well as workshops and symposia focused on timely drug discovery and public health challenges. These workshops introduce best practices in early drug discovery and have attracted audiences from academia, government and pharmaceutical/biotechnology laboratories. The workshops also introduce the scientific community to new technologies and provide participants with opportunities to engage with established drug discovery experts. Many of the AGM workshop recordings are available on the AGM website and on the NIH NCATS YouTube channel.

Popular AGM Workshops

- Assay Guidance Workshop for High-Throughput Screening and Lead Discovery
- *In silico* Drug Discovery Workshop
- Assay Guidance Workshop on 3-D Tissue Models for Antiviral Drug Development
- Assay Guidance Workshop on DNA-Encoded Libraries for Lead Discovery

AGM Webinars

Launched in 2023, the quarterly AGM Preclinical Translational Science Webinar Series is designed to disseminate critical information about preclinical translational science. The series is particularly relevant for biomedical researchers who are conducting preclinical studies to advance research leading to interventions that will impact human health. The webinars are available to the public, and the recordings are uploaded to the AGM website and the NIH NCATS YouTube channel.

Popular AGM Webinars

- William G. Kaelin Jr.: Preclinical Cancer Target Validation — How to Avoid Being Wrong
- Jay Bradner: Gene Control Medicines: Chemical Biology & Therapeutics
- Derek Lowe: AI and ML in Drug Discovery
- Carolyn Bertozzi: New Therapeutic Modalities Inspired by Glycoscience
- Raymond Deshaies: How Proximity-Based Drugs Are Redefining Pharmacotherapy

AGM Research

The AGM Program participates in collaborative research initiatives focused on addressing bottlenecks in early drug discovery, including assay robustness and reproducibility, assay artifacts and interferences, and establishing best practices for preclinical translation. Individuals interested in collaborating on such research endeavors are encouraged to contact us to discuss opportunities.

Visit the AGM Program Website

Visit the AGM eBook Website

AGM Program Website
ncats.nih.gov/research/research-resources/agm

AGM eBook
ncbi.nlm.nih.gov/books/NBK53196

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About NCATS
ncats.nih.gov/about/ncats-overview