



Accelerate Companion Animal Drug Development

De-risk your pipeline before moving into dog and cat studies

Strengthen your preclinical strategy before entering dog and cat studies with translational mouse models for chronic and progressive diseases.

Mechanism-based evaluation common to dog and cat diseases

Rapid study initiation (as fast as 2 weeks)

Integrated analysis of pathology, gene expression, and biochemistry

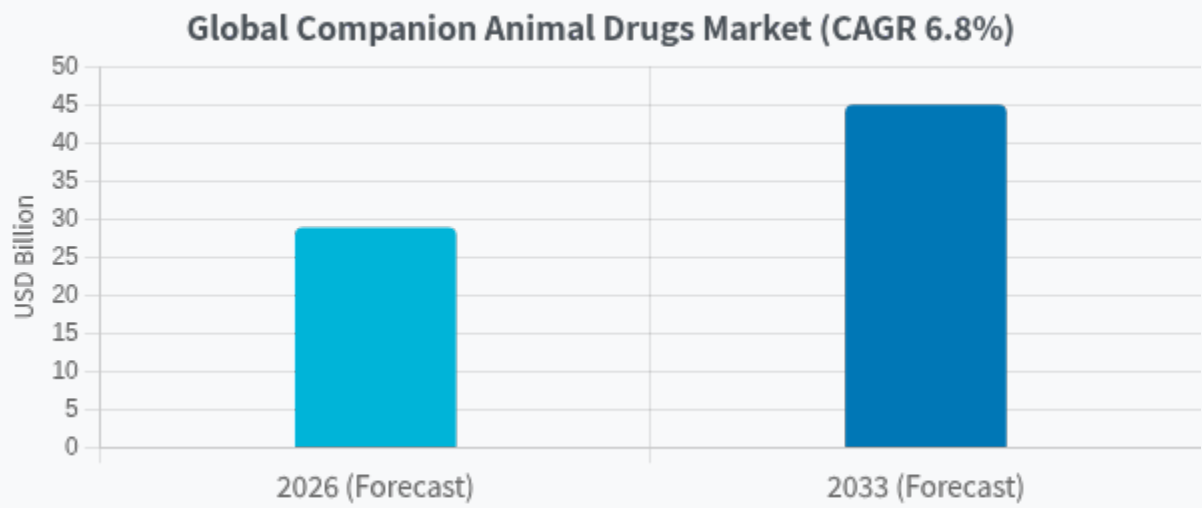
[Request a consultation](#)

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Growing Demand & Key Challenges

Market Background and Development Challenges for Companion Animal Therapeutics

Rapidly Growing Market and Needs



Key Disease Areas Driving Innovation

Aging pet populations and rising chronic diseases demand human-grade safety and efficacy.

- Feline Chronic Kidney Disease (CKD)
- Canine Osteoarthritis (OA)
- Inflammatory & Immune Diseases
- Oncology

Key Challenges in Development

Target Animal Studies

High Cost and Variability

- Studies using dogs and cats are expensive and show high variability due to individual differences.

Difficulty in Screening

- It is impractical to directly compare and evaluate multiple drug candidates in target animals.

Uncertainty in Early PoC

- Risk of proceeding to costly trials without sufficient validation of the mechanism of action.

Early decision-making is critical to reduce risk.

Translational Mouse Models for Better Decisions

Solutions to optimize decision-making before target animal studies

Value Proposition of SMC Laboratories



We provide **in vivo efficacy evaluations** that replicate disease mechanisms shared between humans and companion animals.

Covering inflammation, fibrosis, oncology, and immunology, centered on our proprietary STAM™ mice.

Mechanisms of action backed by multi-layered data: pathology, gene expression, and biochemistry.

Standardized study protocols ensuring high reproducibility.

Key Benefits



Establish Early PoC

Early validation of efficacy against target diseases before proceeding to costly dog and cat studies.



Highly Reproducible & Objective

Strictly controlled conditions and benchmarking against extensive historical data provide highly reliable results.



Study Design Optimization

Support in selecting optimal doses, administration periods, and biomarkers to increase the success rate of subsequent studies.

**Enhance translational potential at the disease mechanism level,
improving the probability of success in target animal studies.**

Key Models for Companion Animal Drug Discovery

Key Translational Models for Companion Animal Drug Development



Feline CKD

Feline Chronic Kidney Disease

Representative Models

Adenine-induced CKD model
UUO (Unilateral Ureteral Obstruction) model

Key Evaluation Metrics

Progression of tubular injury
Assessment of renal fibrosis
Changes in renal function markers



Canine OA

Canine Osteoarthritis

Representative Models

CAIA (Collagen Antibody-Induced Arthritis) model

Key Evaluation Metrics

Local inflammatory response
Quantification of pain response
Joint destruction and cartilage degeneration



Oncology

Oncology and Cancer Therapeutics

Representative Models

Xenograft models
Syngeneic tumor models

Key Evaluation Metrics

Survival rate & tumor growth inhibition
Tumor microenvironment (TME)
Immune cell infiltration and activation



Metabolic / Liver

Metabolic and Liver Diseases

Representative Models

Proprietary STAM™ model
(Progression from MASH to HCC)

Key Evaluation Metrics

Quantitative assessment of liver fibrosis
Steatosis and inflammation scores
Inhibition of tumorigenesis and progression

From Mechanism to Decision

Reliable Translation from Mechanism Validation to Target Animal Studies



Value Gained from SMC's Approach

- ✓ Early validation of Mechanism of Action (MoA) and efficacy
- ✓ Reduction of failure risks in late-stage (target animal) studies
- ✓ Refinement of dose ranges and evaluation endpoints
- ✓ Acceleration of the overall drug development program

Proven Track Record

Reliable results based on extensive historical data and standardized study protocols



1,000+

Studies Conducted

Ensuring objective interpretation and benchmarking with vast historical data



160+

Publications

Providing scientifically validated data highly regarded in academia



30+

Countries Served

Supporting drug development for global pharmaceutical companies and institutes

Core Expertise

SMC's specialized areas supported by deep knowledge and experience



Inflammation



Oncology



Fibrosis



Immunology

We enable highly reproducible screening across a broad range of disease areas through standardized procedures and strict quality control.

Let's Design Your Preclinical Strategy

Partner with us to build a preclinical strategy for chronic diseases in companion animals

Target Disease Areas

If you are working on the following or other chronic diseases in companion animals, we would be happy to discuss how to support your program.

 **Feline Chronic Kidney Disease (CKD)**

 **Canine Osteoarthritis (OA)**

 **Oncology**

 **Other Chronic & Progressive Diseases**

Discussion Topics

- ✓ Aligning program goals and timelines
- ✓ Selecting optimal translational models based on scientific evidence
- ✓ Proposing study designs and de-risking plans using extensive historical data

 **Contact Us**

 **View Website**