



**ABSORPTION
SYSTEMS®**

A Pharmaron Company

absorption.com

Fully Integrated Nonclinical Contract Research Organization

- ✓ Small molecule
- ✓ Large molecule
- ✓ *In Vivo* medical device
- ✓ Cell and gene therapy
- ✓ Ophthalmology and dermatology
- ✓ Clinical bioanalysis

Exton, PA | San Diego, CA | Medford, MA

Absorption Systems

Founded in 1996, Absorption Systems is a full service nonclinical contract research organization developing innovative services and solutions for the pharmaceutical, biotech, medical device, and regenerative medicine industries. Our focus is to maintain accuracy, timelines, and reliability at every stage of development.

Nonclinical Services

Small Molecule/ADME

Our NDA-enabling portfolio of preclinical drug discovery and drug development services includes rigorous and definitive assays in all areas of ADMET, often triggered by specific requests from a regulatory agency.

- ✔ Physiochemical Properties
- ✔ Protein and Tissue Binding
- ✔ Transporters
- ✔ Metabolism
- ✔ Permeability
- ✔ Dermal
- ✔ Pharmacokinetics- Small & Large Animals
- ✔ General & Specialty Toxicology
- ✔ Drug Delivery/Alternate Dose Routes
- ✔ Ocular
- ✔ Bioanalysis
- ✔ Biopharmaceutics Classification System (BCS)

Large Molecule/Biologics

A comprehensive range of *in vivo*, cell-based, and bioanalytical tests for research and preclinical testing of large molecules and biologics through Phase IV studies.

RUO, GLP, GMP, GCLP Assay Development, Validation and Sample Testing

- ✔ Cell Based Assays
- ✔ Proliferation Bioassays using various cell types
- ✔ Cell Viability and TCID50 titer
- ✔ Cytokine Release and Migration Assays
- ✔ GMP Lot Release Testing
- ✔ ELISA
- ✔ Quantitative Western Blot
- ✔ Enzyme Activity Assays
- ✔ Luminex Multiplex Technology
- ✔ Flow Cytometry
- ✔ Fluorescent and Luminescent Assays
- ✔ PCR
- ✔ Pharmacokinetics- Small & Large Animals
- ✔ General & Specialty Toxicology
- ✔ Sample Management

Cell & Gene Therapy

Absorption Systems is focused on testing for cell and gene therapy products, providing analytical support for cell and gene therapy products throughout every stage of development. Potency assays are on the critical path and Absorption Systems offers de novo development, optimization, qualification, validation and GMP-compliant final product and product release testing services for both allogenic and autologous therapies.

- ✔ *In Vitro* cell-based potency release assay development through validation
- ✔ Neutralizing Antibody
- ✔ Cytokine Release
- ✔ Vector Infectivity/Efficiency
- ✔ Cell Line Development
- ✔ Nonclinical, GLP and GMP Compliant Analytical Services
- ✔ Experience with *in vivo* & *ex vivo* gene therapies, autologous, allogenic, cell and immunotherapies
- ✔ *In Vivo* Biodistribution
- ✔ GLP Toxicology Studies
- ✔ *In Vivo* Efficacy Studies



Ocular

Models include *in vivo* and *ex vivo* options for implants and small and large molecules. Absorption Systems provides specialized tissue-based ADME ocular models that deliver a comprehensive study from design to testing to endpoint analysis using conditions optimized for your compound.



- ✔ Ocular PK & Toxicology Services
- ✔ Anterior and Posterior Efficacy Models
- ✔ *Ex Vivo* Ocular Permeability
- ✔ Disease Models
- ✔ Ocular Devices
- ✔ Bioanalytical
- ✔ Cell & Gene Therapy
- ✔ Custom Model Development

Medical Device

Absorption Systems has the resources and expertise to perform a wide range of *in vivo* preclinical tests of medical devices with the ultimate goal of helping our clients attain successful 510(k) or PMA submissions. Our USDA-registered, NIH OLAW-assured, and AAALAC-accredited facility is also available for contract vivarium leasing and physician training sessions.

- ✔ Metabolic Studies- Diabetic Models
- ✔ Dermal Efficacy Testing
- ✔ Cardiovascular
- ✔ Regenerative Medicine

Innovation Spotlight

In Vitro Dissolution Absorption System - IDAS™

Biopharmaceutics Dissolution with Better *In Vivo* Correlation

The *In Vitro* Dissolution Absorption System (IDAS) combines traditional dissolution testing with a means to determine and quantify interactions with a bio-relevant membrane.

Common Challenges

- ✔ Independently measured solubility
- ✔ Permeability and dissolution
- ✔ Rarely has physiologic relevance
- ✔ Poor IVIVC
- ✔ Limited utility of *in vitro* data in formulation development and optimization

Advantages of IDAS

Ability to Evaluate:

- ✔ Absorption/Permeation/Accumulation
- ✔ Biomarker Regulation
- ✔ Metabolism

Characterized and Validated System:

- ✔ Multiple Dissolution Media
- ✔ Drug Products From All BCS Classes

Applications

- ✔ Evaluate Formulations
- ✔ Evaluate Food Effects
- ✔ Evaluate Locally Acting GI Products



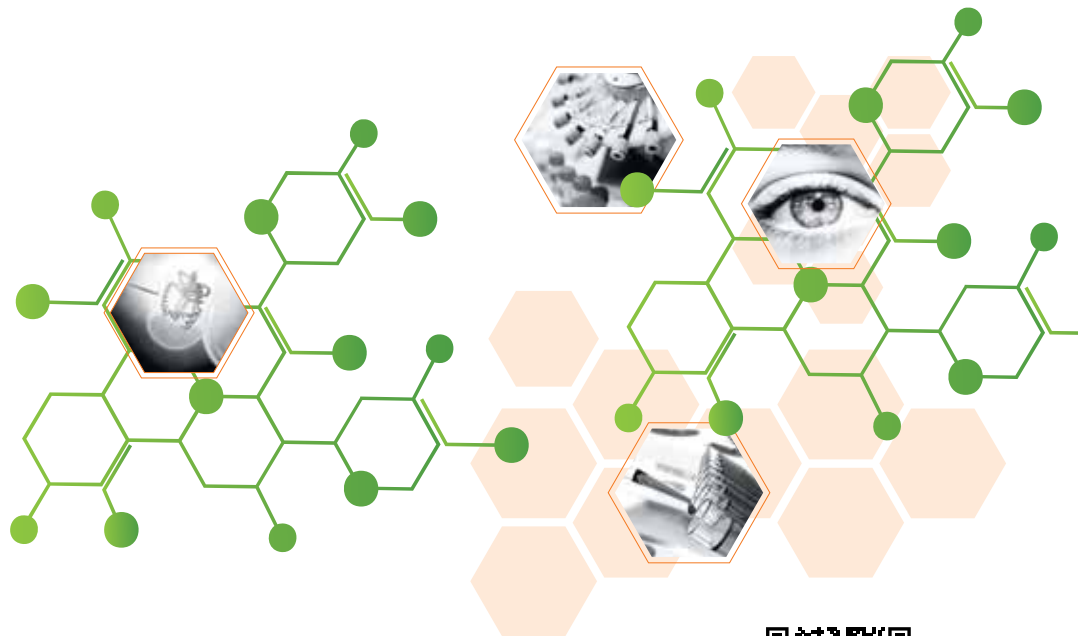
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- ✔ Cell Licensing & Assay Ready Plates
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Company Credentials

- ✔ AAALAC Accredited
- ✔ FDA Inspected
- ✔ USDA Registered and Inspected
- ✔ DEA Licensed
- ✔ OLAW Assured
- ✔ NIH Registered
- ✔ PHS Registered
- ✔ ISO 9001:2015-Certified
- ✔ IACUC Approval
- ✔ Animal Biosafety Level 2 (ABSL2)
- ✔ On-site Veterinarians
- ✔ MHRA Certified (Absorption Systems)



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