Preclinical Services/

Medicilon provides fully integrated pharmaceu t cal services to the global pharmaceu t cal community. The services across biology, chemistry and preclinical research are specially designed to help clients develop their research and discovery programs from the ini t al idea stage to the IND filing phase. Preclinical department in Medicilon has extensive and professional knowledge in drug metabolism/pharmacokine t cs, pharmacology studies as well as toxicology. We o er the high-quality and cost-e ec t ve data with rapid turnaround t me to support drug development, preclinical studies and clinical research. Our services cover

Our pharmacokinetcs department o ers the clients a broad spectrum of high quality of services in the areas of ADME, pharmacokinetcs and bioanalysis services, ranging from small molecules to large molecules, such as protein and antbody. The animal species involved in our services are non-human primate, canine, mice, rat, rabbit and hamster. Meanwhile, non-human primate experimental platorm and isotope platorm for protein/antbody are certfied by the Shanghai government.

ADME

/

Preclinical Pharmacokinetics

- Method development and validaton(GLP&Non-GLP)
- Bioanalysis
- Pharmacokinetcs (Tumor bearing rodents, Bioavailability, Crossover studies, Cassete (N in 1) dosing and analysis, E ects of gender on pharmacokinetcs, BBB penetraton)
- Stability in vehicles and plasma
- Drug interacton studies
- metabolic stability
- CYP 450 inhibiton/inducton
- Permeability studies
- Plasma protein binding studies
- Distribuon studies
- Excreton studies
- Predicton and identficaton of major metabolites
- Toxicokinetcs analysis

- GLP Non-GLP
- CYP450

Pharmacokinetics with Radiolabelled Compounds

- Protein/antibody drug with ^{125}I labeled for PK
- Tissue distribution
- Mass balance

Pharmacokinetics Package for IND Filing

- DMPK package for CFDA and FDA IND filing
  - Chemical compounds
  - Traditional chinese medicine
  - Protein
  - Antibody

We have successfully helped many clients to prepare the DMPK package for CFDA and US FDA IND filing and have passed all audits smoothly.

我们已经成功地帮助很多客户向**CFDA**和**FDA**递交符合新药注册要求的药代申报资料，并已接受多次核查，且顺利通过所有核查。

Quick study initiation and scheduling flexibility will help you make your decisions faster and reduce your total research costs!

实验的快速启动和安排的灵活性将帮助您做出更快的决定和减少总的研究费用！

Cancer Xenograft Models/ /

Head and Neck Cancer	
Nasopharyngeal Carcinoma Stem Cell	
Lung Cancer	
Breast Cancer	
Gastric Cancer	
Pancreatic Cancer	
Renal Cancer	
Hepatocellular Carcinoma	
Glioblastoma	
Colon and Cecum Cancer	

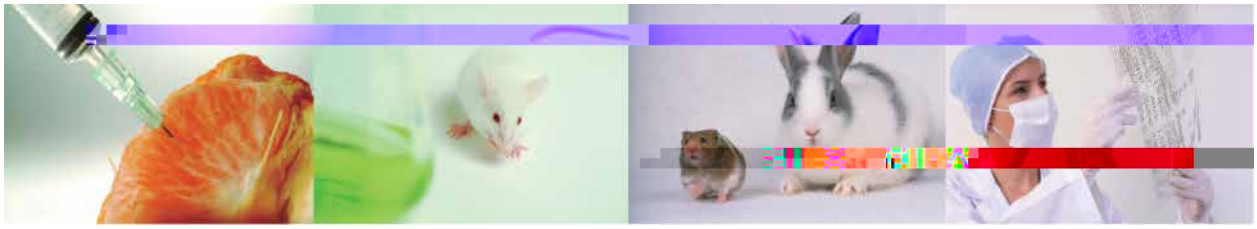
* Medicilon also o ers primary tumor models.

美迪西也提供原代肿瘤模型用于药物筛选。

➢ Metabolic Disease Models/

Disease	Model	Species
Diabetes	STZ-induced	Mouse/Rat
	Genetically engineered	Db/db, ob/ob Mouse Db/db, ob/ob
	High fat diet-induced obesity	DIO Mouse DIO
	Aged, diet-induced	Rhesus Monkey
Obesity	Genetically engineered	Db/db, ob/ob Mouse Db/db, ob/ob
	High fat diet-induced	

➢ Inflammation & Immunological Disease Models/



Our toxicology department has professional teams with rich experience in toxicology studies. We o er high-quality data and rapid turnaround period to support drug discovery and development. Our toxicological study is conducted in various kinds of animal species. The toxicological evalua ton from dose design, in-life studies to histology and pathology tes tng along with toxicokine tcs studies are all complied with non-GLP or GLP standard. Our study pla t orm is cer t fied as one of Shanghai Public Service Research Pla t orms.

GLP GLP

Drug Preclinical Safety Evaluations (CFDA, FDA GLP Compliance)

- Single dose toxicity study
- Repeated dose toxicity study
- Safety pharmacology study
- Genotoxicity study
- Reproduc t ve toxicity study
- Immunogenicity study
- Toxicokine t c study
- Topical toxicity study

Histopathology Capabilities

- Rou t ne and special staining techniques
- Prepara t on of slides with high quality
- State-of-the-art automated equipment:
  - Slide and casse t e prin t ng (Leica)
  - Tissue processing (Leica)
  - Hematoxylin & eosin staining(Leica)
- Professional microscopic review by domes t c and interna t onal pathologists

Clinical Pathology Capabilities

- Hematology

Leukocyte count (total and 5 part di erental), Erythrocyte count, Hemoglobin, Hematocrit, Mean corpuscular hemoglobin, Mean corpuscular volume, Mean corpuscular hemoglobin concentraton, Absolute and percent retculocytes, Platelet count, Blood cell morphology

- Urinalysis

Volume, Specific gravity, pH, Color and appearance, Protein, Glucose, Bilirubin, Ketones, Blood, Urobilinogen, Nitrite, Leukocyte, Microscopy of centrifuged sediment

- Clinical Chemistry

Alkaline phosphatase, Total bilirubin, Direct bilirubin, Indirect bilirubin, ALT, AST, Gamma glutamyl transferase, Urea nitrogen, Creatnine, Total protein, Albumin, Globulin, Glucose, Total cholesterol, Triglycerides, Electrolytes(sodium, potassium, chloride), Calcium, Phosphorus, Creatne kinase, High density lipoprotein cholesterol, Low density lipoprotein cholesterol, Bicarbonate

- Coagulaton

Prothrombin tme, Actvated partal thromboplastn tme, Thrombin tme, Fibrinogen

-

-

pH

-

γ -

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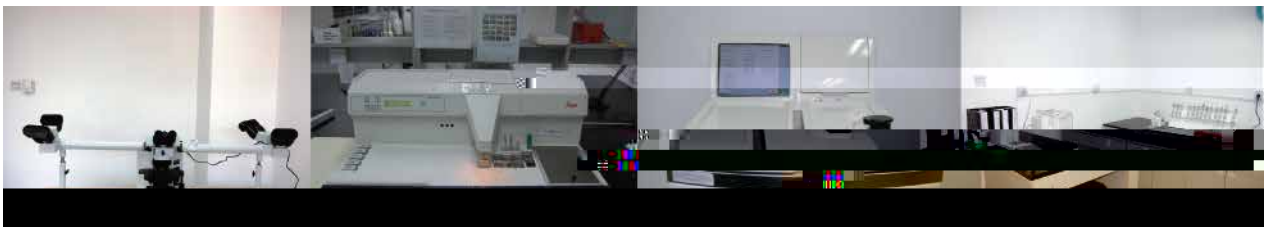


➢ Preparation of Toxicity Package Compliance with FDA and CFDA IND Registration Requirements

FDA CFDA

Animal Facilities and Capability

-Totally 50,000 SF

-12,500 SF of function area

-12,500 SF of Canine housing: maximum capability for 350 animals

-12,500 SF of NHP housing: maximum capability for 400 animals

-12,500 SF of Barrier system for Rodent housing: Separate SPF and non-SPF area; maximum capability for 2400 animals of SPF area and 500 animals of non-SPF area

-Design and Operation of the facility is under international and Chinese regulations

-总设施面积5,000平方米

-功能区域1,250平方米

-犬动物房1,250平方米：最多可容纳350只

-非人类灵长动物房1,250平方米：最多可容纳400只

-啮齿类屏障系统动物房1,250平方米：SPF和非SPF区域； SPF区域最多可容纳5000只；非SPF区域最多可容纳500只

-设施的设计和运营均符合国际和国内的标准

Clean hallway in barrier system
屏障系统洁净走廊

Non-clean hallway in barrier system
屏障系统非洁净走廊

Specimen
标本室

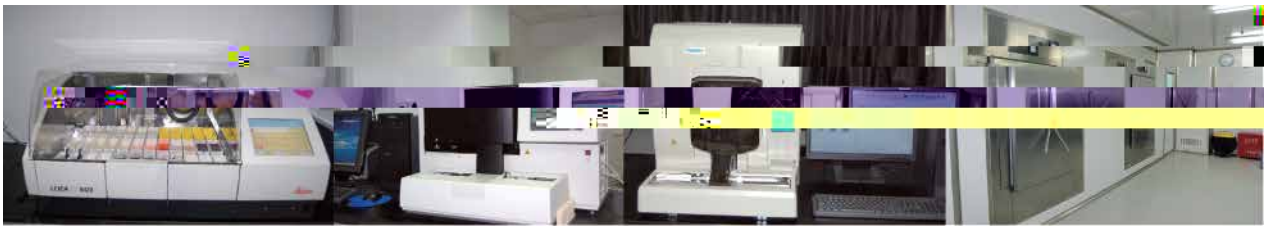
West tissue storage
湿标本室

Rodent room
大（小）鼠饲养室

Dog room
犬类饲养室

NHP room
非人灵长类饲养室

Animal dissecting table
解剖台



Drug evaluaton research completed from 2008 to 2012

More than 1000 per year preclinical researches have been completed, including single-dose toxicity studies, repeated-dose toxicity studies, topical toxicity studies, toxicokinetc studies and pharmacokinetc studies, now the company has been expanding the safety evaluaton to safety pharmacology study, immunogenicity study, genotoxicity and reproductve toxicity study.At present, evaluaton and research of four IND packages are being conducted and will be submited to FDA soon.

每年完成超过1000项药物临床前安全评价研究，包括单次给药毒性试验、反复给药毒性试验、局部毒性试验、毒代动力学试验和药代动力学试验。公司现将药物安全评价能力扩展至安全药理试验、免疫原性试验、遗传毒性和生殖毒性试验。目前公司正开展4个新药全套临床前评价和研究的项目用于申报FDA。

Provantis and LIMS are used in data collection, analysis, storage and format reporting. All equipments and instruments used in GLP studies have been validated including software.

Provantis和LIMS软件用于数据采集、分析、储存和格式化报告,所有的设备和仪器已验证或正在验证包括跟数据生成有关的设备和仪器软件。

From Sponsors Evaluatons (selected)/选自客户的评估报告

“The results of an intensive three days audit onsite of GLP systems and procedures, as well as site and personnel, operatng systems and procedures, and raw data and final report from one non-GLP study lead to the conclusion that Medicilon is qualified and capable of conductng non-clinical GLP studies in compliance with the US FDA GLP’s. The personnel who partcipated the audit were konwledgeable and professional.”

Please contact us for more information on how we can help move your drug along the development pathway.