

CNBE

*Your drug development accelerator
in preclinical animal studies*



- ✓ **Turnkey contract research (CRO services)**
- ✓ **Specialized in exploratory non-GLP studies:**
 - **Toxicity/safety**
 - **Drug Metabolism & Pharmacokinetic**
 - **Drug efficacy study**
- ✓ **78 multifunctional animal housing rooms**
- ✓ **Fast turnaround time & flexibility**
- ✓ **Highly qualified personnel**
- ✓ **Animal husbandry available for your own studies**
- ✓ **22 years experience**

CNBE

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YOUR DRUG DEVELOPMENT ACCELERATOR IN DMPK STUDIES

✓ MULTIPLE ROUTES OF ADMINISTRATION

- per os (gavage)
- intravenous (IV)
- intraperitoneal (IP)
- subcutaneous (SC)
- intramuscular (IM)
- intradermal (ID)
- intratechal (IT)
- endotracheal (ET)
- intravesical (Ive)

✓ MULTIPLE ANIMAL SPECIES

- Permanent colony of 6 non-human primates (cynomolgus macaques)
- Permanent colony of 8 beagle dogs
- Rodents (mice and rats)
- Guinea pigs, ferrets, rabbits
- Farm animals (swine, goat, sheep, poultry)

✓ SAMPLING

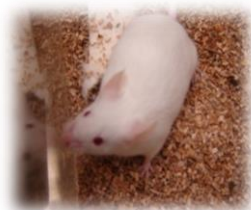
- Blood, serum, plasma
- Urine and feces
- Organs
- Bone marrow

✓ SPECIALIZED PK SERVICES

- Capillary microsampling available for mice (10-30 μ L) >>> one mouse = one PK
- Cerebrospinal liquid (CSF) collection from rats and monkeys
- PK in knockout rats for drug transporters and xenobiotic sensors (e.g. MDR1, OCT1, PXR)
- PK in mice with human cancer (xenografted animals)
- PK in hyperlipidemic rats
(to reflect unhealthy total cholesterol level; present in 57% of Canadian of 40-59 years old)

✓ FAST TURNAROUND AND FLEXIBILITY

- Days or weeks (not months)





YOUR DRUG DEVELOPMENT ACCELERATOR IN EXPLORATORY TOXICITY STUDIES

✓ TOXICITY

- Dose-range finding study (**MTD, NOAEL, NOEL**)
- Lethal dose, 50% (**LD50**)
- Acute toxicity
- Chronic toxicity
- 7-day repeated administration toxicity
- Immunotoxicity & immunogenicity
- ECG & respiratory rate in non-human primates
- Skin reaction/Draize scoring
- Dermatology/biopsies
- Stem cell safety (Fox Chase SCID Beige model) and NHP
- Blood chemistry
- Hematology and coagulation
- Histopathology

✓ ANIMAL SPECIES

Non-human primates	Rodents	Large animals	Dogs	Unusual species	Others
Cynomolgus macaques (colony)	Mice (including transgenic, nude, SCID)	Pigs	Beagle dogs (colony)	Ferrets	Rabbits
Rhesus macaques	Rats (including transgenic, nude, SCID)	Minipigs	Mongrel dogs	Cotton rats	Chicken
Capuchin monkeys	Guinea pigs	Goats			Chicks
Squirrel monkeys	Hamsters	Sheep			Turkeys



YOUR DRUG DEVELOPMENT ACCELERATOR IN ANIMAL MODELS (DRUG EFFICACY)

✓ **VACCINE AND INFECTIOUS DISEASES**

- BSL-2 (for both small and large animals)
- Bacterial and viral infectious models
- Murine endotoxemia models

✓ **ONCOLOGY**

- Syngeneic, xenografted and PDX models
- *in partnership with Woodland Biosciences Inc. (USA)*

✓ **LIVER DISEASE**

- Acute liver injury (D-GaIN and LPS-induced)
- NASH model (Nonalcoholic steatohepatitis)

✓ **IMMUNITY AND INFLAMMATION**

- Wound healing
- Ischemic ear rabbit model
- Autoimmune disease
- Polyclonal antibody production (rabbit, sheep, goat)

✓ **CISPLATIN-INDUCED ACUTE AND DELAYED EMESIS MODELS (FERRETS)**

- To test new anti-emetic drugs
- To evaluate possible emetic properties of a compound developed for other purposes





YOUR DRUG DEVELOPMENT ACCELERATOR

VIVARIUM LEASING WITH FULL SERVICES

- ✓ **NO CAPITAL EXPENDITURES**
- ✓ **SPACE AVAILABLE FOR IMMEDIATE OCCUPANCY**
- ✓ **FLEXIBLE TERM COMMITMENT**
- ✓ **SCALABILITY**
- ✓ **78 MULTIFUNCTIONAL HOUSING ROOMS FOR SMALL AND LARGE ANIMALS**
- ✓ **LABORATORIES AND PROCEDURE ROOMS AVAILABLE**
- ✓ **FULL SERVICES INCLUDING SANITIZATION**
- ✓ **TECHNICAL ASSISTANCE IS AVAILABLE ON HOURLY BASIS**
- ✓ **SURGERY AND NECROPSY ROOMS AVAILABLE**
- ✓ **ANIMAL PURCHASING AND LOGISTIC SERVICES**
- ✓ **24/7 SECURE ACCESS**
- ✓ **AAALAC INTERNATIONAL AND CCAC ACCREDITED**

