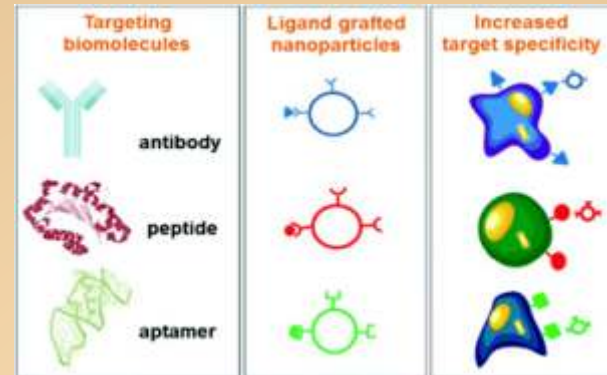




Instrument usage service charge

In-vivo live imaging system instrument usage service charge cost is fixed Rs. 1000/- per hour. Service tax would be extra. Kindly arrange a mutually convenient date and time before use.

Biodistribution and Drug Delivery



In-vivo
live animal
imager – Instrument
usage service open
to researchers

Terms & conditions for instrument usage

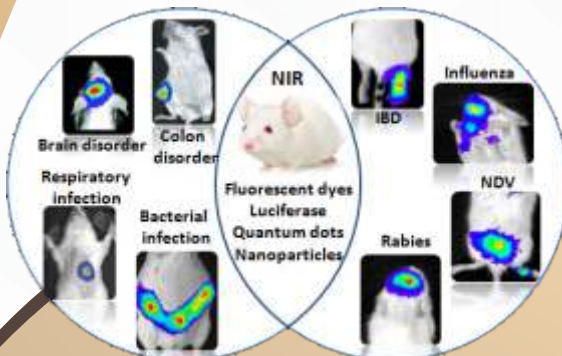
1. All the experimental requirements such as dye, animal, anesthesia etc. should be brought by the user only.
2. The ethical clearance for performing the study should be obtained by the user only.
3. The resulting images and quantified data will be written and given to the user in a CD provide by them.
4. TRPVB is not responsible for any ethical issues due to incomplete procedures by the user or unexpected /poor quality of results from the experiment and no request for refund of usage charges will be entertained.

Contact Address

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Pathogen Tracking



Translational Research Platform for
Veterinary Biologicals (TRPVB)

2nd floor, CUL Building, CAHS

Tamil Nadu Veterinary and Animal Sciences University (TANUVAS)
Madhavaram Milk Colony, Chennai – 600 051.

About Translational Research Platform for Veterinary Biologicals (TRPVB)

TRPVB is a unique partnership programme between Department of Biotechnology and Tamil Nadu Veterinary and Animal Sciences University in the field of Translational Research for Veterinary Biologicals. The research team includes an amalgamated combination of academia / industry and regulatory experts who can leverage and assist clients in various stages of product development. It is housed in one of the leading veterinary universities in India which provides the much needed academic ambience to act as a knowledge hub.

In-vivo live imaging is a powerful technique for non-invasive imaging of the whole body of laboratory animals. This technique has the advantages of reducing animal sacrifice, reduces data variability by using the same animal multiple times and analyzing the progression of disease / analyte in a particular animal. It has been applied mainly for monitoring disease progression, cell trafficking and gene expression patterns in live animals. *In-vivo* optical imaging is based on either:



- Bioluminescent imaging which requires genetic alteration of cells with a reporter gene (e.g. luciferase).
- Fluorescent imaging which is able to use native, unaltered cells for visualization of molecular events.

TRPVB possess the Calipers IVIS Lumina LT series III model with Perkin Elmer live image 3.2 version software.

The working filters of the above equipment in NIR region include:

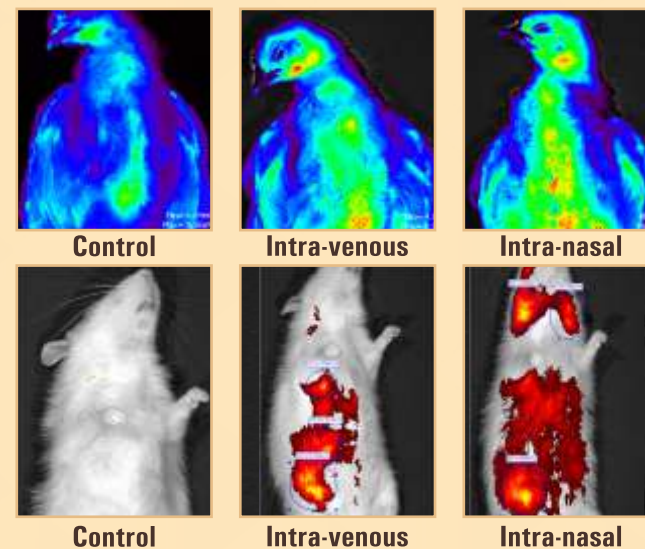
- ➔ Dual 12-position emission filter wheels and a 12-position excitation wheel; a variety of band pass optical filters, tailored for specific fluorophore visualization (e.g., GFP, DsRed, Cy5.5 and ICG) and lumino phores (luciferase activity).
- ➔ GFP: 515-575 nm access Green fluorescent protein (GFP), Enhanced Green fluorescent protein (EGFP), Fluorescein isothiocyanate (FITC).
- ➔ DsRed: 575-650 nm access mCherry Fluorescent Protein (mCherry), mTomato, DsRed, Quantum dots 605 (QD605), Far red fluorescent protein TurboFP635 (TurboFP635), Rhodamine - B.
- ➔ Cy5.5: 695-770 nm access AlexaFluor 680, AlexaFluor 700, Cyanine 5.5 (Cy5.5).
- ➔ ICG: 810-875 nm access Quantum dots 800 (QD800), AlexaFluor 750, DiIC18 (7) or 1,1'-dioctadecyl tetramethyl indocarbocyanine Iodide (DiR), IRDye800CW, Indocyanine green (ICG).

This instrument can be used to perform *in-vivo* imaging for up to 4 mice or 2 medium-sized rats or one small chick. It can also accommodate petri-dishes or microtiter plates for *in-vitro* imaging.

Potential applications of *in-vivo* imaging include

- ☐ Oncology Research
- ☐ Infectious Disease
- ☐ Inflammation
- ☐ Metabolic Disease
- ☐ Neurology
- ☐ Gene Therapy
- ☐ Stem cell Biology
- ☐ Cardiovascular Disease
- ☐ Immunology and transplantation biology
- ☐ Toxicology and drug metabolism studies

Use of *in-vivo* live imaging system at TRPVB



These *in-vivo* images shows Newcastle disease virus (NDV; LaSota strain) conjugated to quantum dots injected in to 2-weeks old chicks and rats. The images were captured 24 hr after NDV inoculation.