

Bacteriology				
23.	Standard Plate Count (Aerobic)	Rs. 500	Rs. 90	Rs. 590
24.	Cell adhesion property analysis	Rs. 1500	Rs. 270	Rs. 1770
25.	Bile salt tolerance analysis	Rs. 200	Rs. 36	Rs. 236
26.	Testing the contamination of E.coli, Staphylococcus sp., Yeast and Mold	Rs. 400	Rs. 72	Rs. 472
27.	Bacterial species identification by PCR and sequencing	Rs. 2000	Rs. 360	Rs. 2360
Environmental Biotechnology				
28.	Cyclic Voltametry	Rs. 100	Rs. 18	Rs. 118

The payments for the training programmes should be made after selection letters are given to the candidates

Payments for sample testing or equipment usage charges should be made at the time of receipt of test results after analysing the samples and before usage of equipments.

The payment may be paid through DD in favour of "The Professor and Head, Dept of Animal Biotechnology, MVC" payable at Chennai or NEFT. The bank details are provided below:

For HRD training

The Professor and Head

Dept. of Animal Biotechnology
S.B.A/c. No. : 332902010702715 | IFSC Code : UBIN0557056
Bank Name : Union Bank of India | Branch Name : MVC Vepery

For IVF training

The Professor and Head

Dept. of Animal Biotechnology
S.B.A/c. No. : 570502010003697 | IFSC Code : UBIN0557056
Bank Name : Union Bank of India | Branch Name : MVC Vepery

For BSU services

The Professor and Head

Dept. of Animal Biotechnology
S.B.A/c. No.: 570502010002915 | IFSC Code: UBIN0557056
Bank Name: Union Bank of India | Branch Name: MVC Vepery

For further details, please contact

The Professor and Head

Department of Animal Biotechnology
Madras Veterinary College, Chennai - 600 007
Phone :044-25369301
E-mail: hodabtmvc@tanuvas.org.in

Kind Attention:

HRD training : Dr. M. Parthiban-9600562996
IVF training : Dr. K. Brindha – 9840971881
BSU services : Dr. P. Raja - 9710316741

Application form for training programmes under HRD

1. Full Name :
2. Degree :
3. Discipline :
4. Institutions / College / University :
5. Academic Performance (OGPA / Percentage / Class) :
6. Communication Address :
7. Email ID :
8. Mobile No :
9. Level of Training :
- 9.1 HRD Level I (Indicate area)
- 9.2 HRD Level II (a, b & c)
(Indicate areas for IIa and IIc)
- 9.3 HRD Level III (a, b, c & d)
(Indicate area of working preferred)
- 9.4 IVF training
- 9.5 ICSI training
10. Training Period
(Indicate the time for the training) :
11. Signature of the candidate
12. Forwarded by HOD
13. Bonafide certificate from the institute
14. Selection intimation
15. Payment Details : DD/ NEFT details

Signature of the candidate



**Human Resource Development Unit
Department of Animal Biotechnology**

INFORMATION BROCHURE

**Tamil Nadu Veterinary and Animal Sciences University
Faculty of Basic Sciences
Madras Veterinary College, Chennai - 600 007**

ABOUT THE DEPARTMENT

The Department of Animal Biotechnology (ABT) was started through the pioneering efforts of visionary faculty in the year 1989, the same year when TANUVAS was also established. Ten years into its existence in 1999, the Indian Council of Agricultural Research (ICAR) recognized the department as a "Centre of Excellence in Veterinary Biotechnology and Immunology". The Department was also awarded with "Niche Area Scheme of Excellence in Avian Biotechnology" in 2012 to conduct research on "Improved and expanded vaccines and Immunological understanding of avian viruses" by ICAR. The Rabies Diagnostic Laboratory of this Department is accredited with ISO/IEC 17025:2017 (NABL) in the field of biological testing for rabies diagnostic services to the public. Recently, the Department is supported by DST-FIST programme under Department of Science and Technology to improve the infrastructure facility for PG education from 2021-2025. The Department of Animal Biotechnology is housed in two blocks of three floors each with 'state of art' facilities to carry out research in various facets of biotechnology. The Central Embryo Biotechnology laboratory is located at the University campus in Madhavaram.

I. HUMAN RESOURCE DEVELOPMENT UNIT

The Department of Animal Biotechnology with its state-of-the art facilities and well trained faculty, offers various training programmes to interested researchers and students that contribute to the development of quality human resources in the frontier areas of biotechnology. The Human Resource Development (HRD) unit of this Department offers the following levels of training programmes:

S.No	Training Programme	Number of days / months	Fee structure and Number of students
1	HRD level I	5 days	Rs.8000/- plus 18% GST per trainee 2-5 trainees at one time as and when required
2	HRD level II	II a 28 days	Rs.13,000/- plus 18% GST per trainee Up to 40 students at one time as and when required
		II b 21 days	Rs.10,000/- plus 18% GST per trainee Up to 20 students at one time as and when required
		II c 14 days	Rs.7,500/- plus 18% GST per trainee Up to 20 students at one time as and when required
3.	HRD level III	III a 3 months	Rs.20,000/- plus 18% GST per trainee Up to 30 students at one time
		III b > 3 – 6 months	Rs.30,000/- plus 18% GST per trainee Up to 10 students at one time as and when required
		III c > 6 – 9 months	Rs.40,000/- plus 18% GST per trainee Up to 10 students at one time as and when required
		III d > 9 – 12 months	Rs.50,000/- plus 18% GST per trainee Up to 10 students at one time as and when required

HRD Level I training involves training in specified areas of biotechnology for a period of 5 days which can be offered at any time point throughout the year.

The areas include the :

- Isolation of DNA and RNA
- PCR and related techniques
- Gene Cloning
- Animal Cell Culture
- Hybridoma Technology
- Immuno Technology
- Flow cytometry
- *In vitro* maturation and fertilization
- Stem cell and related techniques
- Real time PCR and Sequencing technologies

HRD Level IIa (Training programme for 28 days involves training in various fields of Biotechnology such as

- Molecular Biology,
- Immunotechnology including Environmental biotechnology and Nanotechnology
- Animal Cell Culture
- Embryo Biotechnology

The trainees would spend one week in each of the above units

The HRD Level IIb Training programme for 21 days involves **ANY THREE** of the above fields chosen by the candidates

The HRD Level IIc Training programme for 14 days involves **ANY TWO** of the above fields chosen by the candidates

HRD level IIIa/b/c/d Project work for a period of 3 months / 6 months/9 months /12 months in various fields of Biotechnology such as

- Molecular Biology,
- Immunotechnology including Environmental biotechnology and Nanotechnology,
- Animal Cell Culture
- Embryo Biotechnology

II. HUMAN RESOURCE DEVELOPMENT IN CENTRALIZED EMBRYO BIOTECHNOLOGY UNIT, MADHAVARAM CAMPUS

The following training programmes pertaining to Reproductive Biotechnology are offered at the Centralized Embryo Biotechnology Unit, Madhavaram Milk Colony Campus every year to cater to the needs of the Teaching / Research staff working in Veterinary / Medical / Pharmacy colleges / Scientific institutions with a basic degree of M.B.B.S., / B.V.Sc., / B. Pharm., / B.Tech., / B.Sc., or any equivalent degree in life sciences

1.	National level training programme on ' <i>In vitro</i> fertilization of farm animal oocytes and co-culture'	21 days	Rs.55,000 plus 18% GST per trainee Up to 10-14 participants per batch
2.	National level training programme on ' <i>Intra cytoplasmic sperm injection</i> of farm animal oocytes'	14 days	Rs.80,000 plus 18% GST per trainee Up to 6 participants per batch

III. The following biotechnology services are being offered in this department to cater the needs of students / researchers from various colleges/ universities on cost basis

Biotechnological services offered in Rabies Diagnostic Unit Under NABL Scope (ISO/IEC 17025: 2017 Accreditation)				
S. No.	Type of service	Cost per sample	18% GST	Total cost
1.	Rabies antibody detection in serum from animals by FAVN	Rs. 1695	Rs. 305	Rs. 2000
2.	Rabies antigen detection by DFAT	Rs. 55	Rs. 10	Rs. 65
Other Biotechnological services offered in various units of this Department				
S. No.	Biotechnology Service offered	Cost Approved for Per Sample	18% GST	Total cost per sample
Molecular Biology				
1.	Diagnosis by PCR	Rs. 750	Rs. 135	Rs. 885
2.	Diagnosis by Reverse Transcriptase PCR	Rs. 750	Rs. 135	Rs. 885
3.	Real time quantitative PCR	Rs. 1000	Rs. 180	Rs. 1180
4.	Genotyping of avian viruses by PCR-RFLP	Rs. 3000	Rs. 540	Rs. 3540
5.	Nucleic acid and protein quantification	Rs. 100	Rs. 18	Rs. 118
6.	Agarose Gel Electrophoresis	Rs. 250	Rs. 45	Rs. 295
7.	Gel documentation AGE & SDS-PAGE	Rs. 250	Rs. 45	Rs. 295
Cell Culture & Virology				
8.	Supply of a cell line flask	Rs. 750	Rs. 135	Rs. 885
9.	Usage of cell culture facility (Cytotoxic experiments)	Rs. 1500	Rs. 270	Rs. 1770
10.	Photomicrography	Rs. 100	Rs. 18	Rs. 118
11.	Detection of Infectious bronchitis virus by reverse transcription PCR and its genotyping by sequencing	Rs. 2200	Rs. 396	Rs. 2596
12.	Detection of Feline Panleukopenia Virus (FPV) by PCR	Rs. 750	Rs. 135	Rs. 885
13.	Detection of feline calicivirus (FCV) by RT-PCR	Rs. 900	Rs. 162	Rs. 1062
14.	Detection of porcine circovirus (PCV2) by PCR	Rs. 750	Rs. 135	Rs. 885
15.	Detection of Porcine parvovirus (PPV) by PCR	Rs. 750	Rs. 135	Rs. 885
16.	Detection and Genotyping of PCV2 and PPV	Rs.2000	Rs. 360	Rs. 2360
Immunotechnology				
17.	Flow Cytometric analysis	Rs. 1000	Rs. 180	Rs. 1180
18.	Polymerase Chain Reaction for Detection of Antigen Receptor Rearrangement (PARR) assay for detection of B or T- cell lymphoma in animals	Rs. 2300	Rs. 414	Rs. 2714
19.	ELISA reader	Rs. 200	Rs. 36	Rs. 236
Nanotechnology				
20.	Raman imaging atomic force microscope	Rs. 2000	Rs. 360	Rs. 2360
21.	Zeta potential	Rs. 500	Rs. 90	Rs. 590
22.	Particle size analyzer	Rs. 500	Rs. 90	Rs. 590

National level training programme on
IN VITRO FERTILIZATION OF FARM ANIMAL OOCYTES AND CO-CULTURE

APPLICATION FORM

1. Name :
2. Educational Qualification :
3. Designation :
4. Address :
5. Telephone No/Mobile No :
6. Email ID for correspondence :
7. *Preferred dates of training :
8. Whether accommodation is required :
(on cost-basis only)
9. Experience :
10. How the training programme will be helpful:

Applicant's Signature

The candidate is sponsored by the institute/ organization for attending the programme.

Date: **Signature of the Head of Institute / Organization**

Place: **with seal**

**Interested candidates are requested to apply, mentioning their preferred dates of training. The training dates would be scheduled fitting the individual's requirement and adequacy of the number of participants enrolled for a particular time-period*

For further details, please contact

The Professor and Head
Department of Animal Biotechnology
Madras Veterinary College, Chennai - 600 007
Phone: 044-25369301
E mail: hodabtmvc@tanuvas.org.in

Contact person for training

**Dr. K. Brindha - 9840971881
narayananbrindha@gmail.com**



**TAMIL NADU VETERINARY AND
ANIMAL SCIENCES UNIVERSITY**



National level training programme on
**IN VITRO FERTILIZATION OF
FARM ANIMAL OOCYTES AND CO-CULTURE**



Information Brochure

**Department of Animal Biotechnology
Faculty of Basic Sciences
Madras Veterinary College, Chennai - 600 007**

ABOUT THE DEPARTMENT

The Department of Animal Biotechnology was started through the pioneering efforts of visionary faculty in the year 1989, the same year when TANUVAS was also established. Ten years into its existence in 1999, the Indian Council of Agricultural Research (ICAR) recognized this Department as a "Centre of Excellence in Veterinary Biotechnology and Immunology". The Department was also awarded with Niche Area Scheme of Excellence in Avian Biotechnology in 2012 to conduct research on "Improved and expanded vaccines and Immunological understanding of avian viruses" by ICAR. The Rabies Diagnostic Laboratory of this Department is accredited with ISO/ IEC 17025:2017 (NABL) in the field of biological testing for rabies diagnosis. Since 2021, the Department is supported by FIST programme under Department of Science and Technology to improve the infrastructure facility for PG education. The Department of Animal Biotechnology is housed in two blocks of three floors each with 'state of art' facilities to carry out research in various facets of biotechnology. The Central Embryo Biotechnology Unit is located at the university campus in Madhavaram Milk Colony.

IVF TRAINING PROGRAMME

The Department of Animal Biotechnology, Faculty of Basic Sciences, Madras Veterinary College, Chennai – 7 offers a 21-day **National level training programme on "In vitro fertilization of farm animal oocytes and co-culture"**. Since 2000, this training is being offered every year on a regular basis and the silver jubilee training programme was conducted during 24th November to 14th December 2021.

Interested candidates are requested to fill-up the attached application format and submit it by email / post / in person to the Professor and Head, Department of Animal Biotechnology, Madras Veterinary College, Chennai – 600 007. Sponsored candidates are requested to get the consent of the Head of the organization / institute in the appropriate column provided in the application format. Selection will be made on first-come first-serve basis and selection of candidates will be intimated through email.

ELIGIBILITY

Person holding a basic degree of M.B.B.S., or other alternative medicine / B.V.Sc. & A.H., / B. Pharm., / B.Tech., / B.Sc., or any equivalent degree in life sciences.

NO. OF PARTICIPANTS

Minimum of 2 and maximum of 10 candidates at one time

COURSE DURATION

A total of 21 days (customizable as per the needs of the beneficiary)

COURSE FEE

Rs.64,900/- per candidate (Rs.55,000/- plus 18% GST of Rs.9,900/-)

VENUE

Centralised Embryo Biotechnology Unit, TANUVAS, Madhavaram Milk Colony, Chennai - 51 (next to Veterinary University Peripheral Hospital)

TOPICS COVERED

Intensive, individual hands-on training would be provided on the following topics:

- Collection, screening and grading of ovine/caprine oocytes
- *In vitro* maturation of oocytes
- Assessment of maturation
- Collection and analysis of ram / buck epididymal sperms
- Separation of motile spermatozoa
- Semen evaluation
- *In vitro* fertilization of mature oocytes
- Oviductal cell co-culture
- Embryo culture
- Assessment of cleavage and grading of embryos
- Demonstration of cryopreservation of embryos

Invited lectures from subject matter experts and site-visits also form part of the training.

PAYMENT

The payment for the training programme should be made after selection letters are given to the candidates. The payment may be done through DD in favour of "The Professor and Head, Dept of Animal Biotechnology, MVC" payable at Chennai (or)

NEFT as per the bank details provided below:

The Professor and Head

Dept. of Animal Biotechnology

S.B. A/c. No.: 570502010003697 / IFSC code: UBIN0557056

Bank Name: Union Bank of India / Branch Name: MVC Vepery

Application form for Short term IVF training programmes

1. Full Name :
2. Degree :
3. Discipline :
4. Name of the Institute / College / University :
5. Academic Performance (OGPA/ Percentage) :
6. Communication Address :
7. Email ID :
8. Mobile No :
9. Level of Training : Module - I / II / III
10. *Preferred dates of training :

Signature of the candidate

Forwarded by HOD

(Bonafide certificate from the institute to be enclosed)

**Interested candidates are requested to apply, mentioning their preferred dates of training. The training dates would be scheduled fitting the individual's requirement and adequacy of the number of participants enrolled for a particular time-period*

The payment for the training programme should be made after selection letters are given to the candidates. The payment may be done through DD in favour of "The Professor and Head, Dept of Animal Biotechnology, MVC" payable at Chennai or NEFT as per the bank details provided below:

The Professor and Head

Dept. of Animal Biotechnology

S.B.A/c. No.: 570502010003697 / IFSC code: UBIN0557056

Bank Name: Union Bank of India / Branch Name: MVC Vepery

For further details, please contact

The Professor and Head
Department of Animal Biotechnology
Madras Veterinary College, Chennai - 600 007
Phone: 044-25369301
E mail: hodabtmvc@tanuvas.org.in

Kind Attention

Dr. K. Brindha - 9840971881
narayananbrindha@gmail.com



**TAMIL NADU VETERINARY AND
ANIMAL SCIENCES UNIVERSITY**



**SHORT-TERM
IVF TRAINING
PROGRAMMES**

Information Brochure

Department of Animal Biotechnology
Faculty of Basic Sciences
Madras Veterinary College, Chennai - 600 007

ABOUT THE DEPARTMENT

The Department of Animal Biotechnology was started through the pioneering efforts of visionary faculty in the year 1989, the same year when TANUVAS was also established. Ten years into its existence in 1999, the Indian Council of Agricultural Research (ICAR) recognized this Department as a “Centre of Excellence in Veterinary Biotechnology and Immunology”. The Department was also awarded with Niche Area Scheme of Excellence in Avian Biotechnology in 2012 to conduct research on “Improved and expanded vaccines and Immunological understanding of avian viruses” by ICAR. The Rabies Diagnostic Laboratory of this Department is accredited with ISO/ IEC 17025:2017 (NABL) in the field of biological testing for rabies diagnosis. Since 2021, the Department is supported by FIST programme under Department of Science and Technology to improve the infrastructure facility for PG education. The Department of Animal Biotechnology is housed in two blocks of three floors each with 'state of art' facilities to carry out research in various facets of biotechnology. The Central Embryo Biotechnology Unit is located at the university campus in Madhavaram Milk Colony.

IVF TRAINING PROGRAMME

The Department of Animal Biotechnology offers Short term IVF training programme pertaining to Reproductive Biotechnology at the Centralized Embryo Biotechnology Unit, Madhavaram Milk Colony Campus to cater to the needs of the students pursuing M.B.B.S. / B.V.Sc. & A.H. / B. Pharm. / B.Tech. / B.Sc. or any equivalent degree in life sciences. Three modules of the training programme are available of varying duration so that students can choose according to their interest and research needs.

Module	Duration	Proposed fee (Rs.)	Contents of the Proposed Modules
Module I : <i>In vitro</i> embryo production – Handling of female gamete	5 days	5,000/- (+ GST @ 18%)	1. Introduction to female reproductive anatomy and oogenesis 2. Aseptic techniques and laboratory equipments for IVF 3. Media preparation 4. Oocyte retrieval from slaughter house specimens 5. Oocyte culture and Grading
Module II : <i>In vitro</i> embryo production – Handling of male gamete	5 days	5,000/- (+ GST @ 18%)	1. Introduction to male reproductive anatomy and spermatogenesis 2. Aseptic techniques and laboratory equipments for IVF 3. Media preparation 4. Sperm retrieval from frozen semen straws 5. Preparation of sperms and IVF
Module III : <i>In vitro</i> embryo production – Handling of female and male gametes (combined)	10 days	9,000/- (+ GST @ 18%)	1. Introduction to female reproductive anatomy and oogenesis 2. Aseptic techniques and laboratory equipments for IVF 3. Media preparation for oocyte culture 4. Oocyte retrieval from slaughter house specimens 5. Oocyte culture and Grading 6. Introduction to male reproductive anatomy and spermatogenesis 7. Media for sperm preparation 8. Sperm retrieval from frozen semen straws 9. Preparation of sperms for culture 10. Determination of sperm count, sperm viability followed by IVF