R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)
Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.
Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

Department of Biotechnology

On Job Training Completion Report

This is to certify that Ms. Archana Gupta has completed On Job Training at

Ostic Pharma Pvt Ltd, SINE, IIT Bombay

Date of Commencement	Date of Completion	Total Number of Days	Total Number of Hours completed in OJT
1/01/24	6/02/24	31	62

Name of the Guide/ PI/ Incharge : Dr. Vinay Saini

Phone Number of Guide/ PI/ Incharge : 8657104859

Email Address of the Guide/ PI/ Incharge : info.ostic@gmail.com

Ramniranjan Jhunjhunwala College NAAC Re-Accredited "A" Grade Mumbai-86

PGAdhaye

Bwpta 22-03-24

Vinay Saini

Signature of Guide/ PI/ Incharge

OSTIC PHARMA PRIVATE LIMITED SINE, IIT BOMBAY, POWAI, MUMBAI 400076.

Stamp

Archana Gupta
414

Report : On job training at Ostic Pharma Pvt, Ltd.

As per the NEP (New education policy) has On job training is part of the semester -ii of MSCBT . This OJT is of 60 HRS works in any pharmaceutical company , pathology laboratory. So I had got opportunity to undertake one month internship at Ostic pharma Pvt, ltd . To gain practical experience in pharmaceutical field & apply theoretical knowledge explore various roles & responsibilities within a Pharmaceutical industry,. The internship was started from 1 January 2024 to 6 February 2024.

Ostic pharma Pvt, Ltd . is a startup incubated with SINE,IIT BOMBAY, Mumbai-76. In Ostic Pharma rapid diagnostic kits are manufacture to diagnose like dengue, HIV , Malaria, HCV, HCG. Tuberculosis, covid , typhoid & this kits are supply in India . Dr. Vinay Saini is the head of the company & he guided me in the work that I had done.

As a interns I got opportunity to work in QA/QC Department . on the first day they gave me diagnostic kits manuals to read & understand the principles, protocol .After reading this medical devices 2017 was the pdf that I told to read & understand the medical devices & their terms and condition . Some of the instrument which I saw & get brief detailed of the instruments like U.V Spectroscopy, BOD incubator, PH meter, Cold centrifugal machine part from this there is machines for making COV-Ant kits. I also observed how these kits is tested for their efficacy and specificity at different titre of gold conjugates antibodies . the company manufacture detection kits and as a result they sell kits B2B on the Government e-commerce platform . (GeM) platform which allowing buyers to different medical professional use different kits and other instrument .they informed me about how this portal works ,sells , acceptance of the order was done and an invoice for the accepted order was made.

Archana Gupta
414

Additionally ,I helped with the packaging of COV -Ant kits which includes labelling ,storing the chemicals and test kits in boxes and then packaging the boxes . I also got chance to make COV-Ant kits .they gave some documentation works formulate SOP, manuals on Glucose pack inserts .

Apart from this I get an chance to visit & represent products in CiiA Innovation and exhibition 2024 along with a co-worker of Ostic Pharma.

Reflect on the overall internship experience was good .form this internship I got to learn lot of things. Over the course of the OJT I became more confident about using the different theoretical knowledge .Express gratitude to Ostic Pharma for the opportunity to participate in the internship program.

Archana Gupta
414

Report -Karyotyping training

Karyotyping coarse was organised on Ramniranjan Jhunjhunwala College (Ghatkopar West) from 22nd October 2023 to 4th January 2024. Dr Possam is the incharge of the coarse she took lecture & guide us for practical.

Karyotyping is the process by which photographs of chromosomes are taken in order to determine the chromosomes complement & abnormalities . the term is also used for the complete set of chromosomes in a species or in an individual organisms & for a test that detect this complement or measure the number.

The principle of karyotyping is T lymphocytes from peripheral blood are induced to divide using a plant lectin, phytohemagglutinin. The maximum mitotic index is reached at 72 hours of culture. The culture is treated with colcemid to arrest cells at metaphase. The cells are harvested using the standard hypotonic treatment and fixation. Clinical indications include diagnosis of congenital abnormalities and genetic counseling of parents with congenitally abnormal infants, sex chromosome abnormalities, and habitual abortion studies.

Protocols

1 Planting -first removed media, serum and PHA from freezer and keep media and serum in the waterbath at 37° Leave PHA at RT ,clean laminarhood with methanol swab. Put on the UV light in the laminar hood for 30 mins.

Procedure for planting the whole blood culture

Syringe	Material	1 Vial	11 Vial
10ml	RPMI 1640 culture Med.	4ml	4ml
5 ml	Human Serum/FBS	1 ml	1 ml
100 ul	PHA (M)	0 .2 ml	0 .25 ml
	PHA (P)	.01 ml	.015 ml
2 ml	Blood	8 drops	8 drops

Clean the mouth of all the vials with methanol and close the screwcaps tightly. Keep the vials in a petridish cleaned with methanol and keep in the incubator at 37 ° C for 72 hours. At the 70th hour add 0.1 ml of colchiciine (10 ug /ml) to each vial. Mix properly and incubate for 1 hour.

2 Termination The pellets, centrifuge tubes, and round bottom tubes were arranged according to the number of vials and labeled appropriately. The vials were removed from the incubator, and their contents were transferred into graduated glass centrifuge tubes with matching labels. These tubes were then centrifuged at 1000 rpm for 10 minutes to separate the supernatant from the pellet. After removing the supernatant, prewarmed KCl solution was

added to the tubes to reach a volume of 5ml, thoroughly mixed, and then incubated at 37°C for 20 minutes.

KCL:0.560 gms in 100ml.Adjust pH at 7

3 FIXATION

Centrifuge at 1000 rpm for 10mins & remove the supernatant. Add fixative **(1:3 glacial acetic acid: methanol)** with simultaneous mixing of the pellet. Make the volume to 5ml and stored in refrigerator over- night.

4 PREPARATION OF SLIDES- Next day, the tubes are removed from the refrigerator centrifuged, and 2-3 washes are given with fixative till the pellet becomes white. At the end discard the supernatant leaving behind fixative till 0.5 ml. keeped the hot plate at 40C, take acidified chilled slides, (slides kept in cold water in refrigerator). Mix the pellet thoroughly and drop it on the cold slide from a hight and keep on the hot plate to heat dry. Removed the slide, stain with plain Giemsa and see under the microscope.

5 After that we **prepared stock of Giemsa stain** (gimesa powder , glycerol) & keep at 37° C over-night.

6 **Banding technique** : Prepared 4slides of patient & keep the slides for overnight at 60° C in oven the day before banding is done. Prepared Buffer, working Giemsa stain ,PBS,TEDTA. the slides are aged, treated with trypsin-EDTA solution, and rinsed in normal saline. Slides are stained with working Giemsa stain and examined under a microscope for banding patterns.

The pellets, centrifuge tubes, and round bottom tubes were arranged according to the number of vials and labeled appropriately. The vials were removed from the incubator, and their contents were transferred into graduated glass centrifuge tubes with matching labels. These tubes were then centrifuged at 1000 rpm for 10 minutes to separate the supernatant from the pellet. After removing the supernatant, prewarmed KCl solution was added to the tubes to reach a volume of 5ml, thoroughly mixed, and then incubated at 37°C for 20 minutes.

The procedure yielded successful cultures with adequate numbers of good-quality metaphases suitable for chromosomal analysis. The combined use of whole blood culturing and banding techniques was crucial for diagnosing genetic disorders and providing valuable insights into patient health.

From this karyotyping training I learned indetail chromosomes structure, their abnoramalities which causes disease & different types of training .I got to learn lot of things . The knowledge & experienced gained during this training was helpful for me as I learned some new skills.