**Sheetal Ahktar Syed**

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Research experience in NCE drug discovery

**SUMMARY**

* Biologist with more than fifteen years of experience in small molecule drug discovery programs in various therapeutic area like metabolic disorder (Diabetes, Obesity), respiratory disorders (fibrosis, COPD, Asthma), inflammatory diseases, immuno-oncology and oncology
* Responsible for planning, standardization and development of in vitro cell based and biochemical high throughput screening assays, ex vivo assays, data analysis and interpretation, troubleshooting, timely data communication to respective stakeholders, preparation of SOPs and scientific reports, mentoring junior team members
* Established and maintained - SOP for lab processes and instrument operations, records for project specific experiments and documentation of result in auditable format. Created validation reports for standardized experiments. Documentation of data as per internal QC requirement.

**TECHNIQUES WELL VERSED**

* Extensive cell culture handling – culturing as well as cryo-banking of various cell lines. Management of master cell bank which consisted of more than 60 cell lines of both human and murine origin including cell lines derived from healthy as well as diseased tissue and cancer cell lines.
* ELISA, Fluorimetric assay, Radiometric assays, Homogeneous Time Resolved Fluorescence (HTRF) and Time-resolved fluorescence energy transfer (TR-FRET) assays
* SDS-PAGE, Immunoprecipitation, Western blotting
* Handling of instruments – Tecan liquid handling unit, plate readers, ultracentrifuge, sonicator, tissue dissociators, tissue/cells homogenizer, flow cytometer, Chemidoc

**ASSAYS WELL VERSED**

**Biochemical assays –** enzyme activity assay, binding assay, kinase screening assays (titration of enzymes and substrates, ATP, time course of kinase reactions, and inhibition curves), enzyme kinetic assay to determine various parameters such as type of inhibition, reversibility, binding kinetics.

**Cell based assays with various types of cell lines depending on the target of study:**

**Assays with cell lines:**

cytotoxicity studies, cytokines estimations from drug treated cells, mechanistic assays as per target e.g. differentiation inhibition studies in 3T3-L1 preadipocytes, study of osteoblast differentiation in MC3T3-E1 a preosteoblast cell line, EMT transition assay in CCD-19-Lu, IPF and NHBE cell lines

Drug Induced Phospholipidosis and Steatosis Assay in HepG2 cell line

*In vitro* drug combination studies, Apoptosis/cell death assay

**Assays with primary cells:**

Isolation of primary cells for cytokine profilation studies: PBMC, T cells, CD4+ T cells from human blood; splenocytes from mouse spleen, CD4+ T cells from mouse splenocytes

Generation of Th1 and Th17 polarized cells for inflammation cytokines analysis

Isolation of neutrophils from human whole blood for cytotoxicity assay, ROS measurement assay

Human and mouse whole blood assay for cytokine release

Cytokine release assay – Th1, Th2 and Th17 cytokines release from PBMCs, T cells, CD4+ T cells

Cytotoxicity assays, cell proliferation and cell viability assays in a panel of cell lines depending on the target (using BrdU, MTT, 3H-Thymidine, trypan blue, Propidium iodide dye, Cell Titer-Glo)

Apoptosis assay (Annexin-PI) by flow cytometry

Immunophenotyping of mouse blood and splenocytes by flow cytometry

Tumor infiltrating lymphocytes (TILs) isolation from tumor for biomarker evaluation

**Animal tissue sample processing**: homogenization of tissues samples from animal models and evaluation of target protein and downstream biomarkers by western blotting

**Translational studies** with patients’ blood and BAL samples from COPD – samples processed and cytokines levels evaluated

**WORK EXPERIENCE**

**Research Scientist: Glenmark Pharmaceuticals Ltd.: Jan’2017– present**

* Responsible for Establishment, Standardization and Validation of various in vitro assays for new targets.
* Responsible for troubleshooting for existing ongoing experiments.
* Execution of experiments for the ongoing current project development.
* Evaluation of literature to generate robust value additive data and track competitive intelligence.
* Carry out mechanistic studies and translational studies for invitro hits.
* Timely data analysis, compilation and submission.
* Preparation of SOPs and scientific reports for validated experiments.
* Responsible for resource management as well as training of juniors.
* Established master cell bank for the cell lines used across departments.

**Senior Research Officer: Glenmark Pharmaceuticals Ltd.: Jan’2012 – Dec’2016**

* Standardization of in-vitro experiments for ongoing projects which included biochemical HTRF assay, enzyme kinetic assay, binding assay
* Carry out day to day experiments and keep track ongoing activities.

**Research Officer: Glenmark Pharmaceuticals.: Jul’2008-Dec’2011**

* Setting up assays for screening of new chemical entities (NCEs) by radiometry.
* Screening of active compounds in established cell lines as well as primary cell lines and whole blood assay.
* Setting up high throughput screening assays on automated liquid handling machine.
* Track inventory and coordinate with vendors for instruments AMCs.

**Research Associate: Glenmark Pharmaceuticals.: Nov’2004-Jun’2008**

* Performed biochemical high throughput screening assays by fluorimetry.
* Carried out cell culture work which included media preparation, cells propagation and expansion, cryopreservation
* Cell based assays and cytokines estimation by ELISA.

**Intern: ADVY Chemical: Apr’2003-Jul’2003**

* Done a project work‘µ-chain purification from human serum’**.**
* Purified IgM from human serum further digested with trypsin and µ -chain antibody part was separated and purified.
* Various analytical techniques like single radial immunodiffusion, immunoelectrophoresis, turbidometry, SDS-PAGE, western blotting and also protein purification techniques like PEG precipitation, different column chromatography are used.

**Intern: Wyeth Lederle Ltd: Apr’2001-May’2001**

* One month job training done in microbiology and QC lab.
* To check the culture purity of the ongoing fermentation at various stages and testing the pH and absorbance of the sample
* Monitor the presence of contaminating phages in the vicinity of the lab as well as the plant.
* Inoculum development for the plant fermenters using bacterial and fungal microorganisms.
* Sterility testing of Company’s products [tablets, injection, dry powder (Wymox), Mucain gel]

**Intern: K.J.Somaiya Hospital & Research institute: Apr’2000-May’2000**

* One month job training done in hematology, serology, bacteriology, biochemistry and clinical pathology labs.

**WORKSHOPS AND TRAINING**

* Attended workshop in P.D. Hinduja hospital and medical research centre on ‘Leukemia and Lymphoma - Flow Cytometry Case Analyses and Troubleshooting’

**EDUCATION**

* **Mar’2004: M.Sc. Biotechnology** (71% - First Class): **University of Mumbai**
* **Mar’2002: B.Sc. Microbiology** (63% - First Class): **K.J.Somaiya College, Mumbai**

**PERSONAL INFORMATION**

**Date of Birth:** 24th Oct 1981

**Marital Status:** Married

**Languages Known:** English, Hindi and Marathi.

**Nationality:** Indian

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