TITHI PATEL, M. Sc., M.L.T
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OBJECTIVE: To work for an organization that aims to conduct researchers that can improve the way of life of people around the world and wherein I can use my experience, education and skills as biochemist to ultimate use.

EDUCATION:

- **Advanced Diploma – Biotechnology: Pursuing**
  Durham College, Oshawa, Ontario, Canada
  Courses:

- Protein Techniques- SDS-PAGE and gel staining, western blotting and immunodetection, ELISA, Bioinformatics tools
- Spectroscopy- AAS, FES, GFAA, ICP, UV/VIS, fluorometry, IR, NMR, NIR, MS, XRF
- Chromatography- Affinity, ion exchange, and size exclusion/gel permeation, thin layer and column chromatography and electrophoresis, HPLC, Ion Chromatography, Gas Chromatography
- DNA Techniques- Agarose gel electrophoresis and gel annotation, DNA purification and DNA quantification, restriction digests and DNA ligation, preparation of competent cells, bacterial transformation, recombinant and transformant selection using selective media, PCR primer design and DNA fingerprinting, Southern blotting and hybridization, and mapping
- Bio-Regulations- WHMIS - 2015, Laboratory Biosafety, agricultural biotechnology and Canadian food safety regulations, HACCP, Occupational Health and Safety, regulations for labeling and manufacturing cosmetics, current medical cannabis regulations, radiation safety, and ISO 9000, 17025 and 14000
- Bio-Processing- Purification of functional enzyme, small-scale fermentations, assays to monitor both quality and purity of the intermediates and products
- Pharmaceutical Microbiology- USP methodology, Emerging pathogens and their resistance to antimicrobial controls, the methods of detecting antibiotic sensitivity and potency.
- Pharmaceutics- Development, approval process, formulation, GMPs and GLPs relate to industries as well as Quality Assurance, testing of raw materials and finished products, both chemical and physical testing, USP/NF monographs and "house" procedures

- **M.Sc. (Master of Science) in Biochemistry: May 2017**
  Nirma University, Ahmedabad, Gujarat, India
  Courses Studied: Metabolism, Cell Biology, Molecular Biology, Human physiology, Advanced Immunology, Neuro Biochemistry, Bioanalytical Techniques, Genetic engineering, Human Genetics, Biochemical Toxicology, Cancer Biology, Endocrinology, Vaccinology, Animal Biotechnology Professional English, Cyber Security, Introduction to professional ethics; rights and duties
  Online courses: Case Studies in Personalized Medicine by Vanderbilt University and Introduction of biology of cancer by Johns Hopkins University

- **Certificate, M.L.T. (Medical Laboratory Technician): August 2015**
  Gujarat Cancer and Research Institute, Ahmedabad, Gujarat, India
  Courses and Techniques Studied: Pathology department

- Hematology and Clinical biochemistry laboratory: Phlebotomy, Samples for lab testing in the areas of coagulation, Hematology by Backman Coulter LH 780; Urine analysis, Stool examination, and Clinical Biochemistry by Backman coulter AU480 chemistry analyzer, Smear preparation from different samples, staining techniques, slide examination, Preparation of reagents and buffers, quality controls
- Microbiology laboratory: Sample receiving including stool; sputum; blood; urine; Genital swab, Preparation of culture media, stains, buffers, Pouring a plate/slant, Inoculation, Streaking, Serology

testing, Sterilization

- Cytology laboratory: Liquid Base Cytology, Cytospin, Staining techniques, Slide examination, FNAC, Light microscopy
- Histopathology laboratory: Histological slides for tissue samples via sample receiving; processing, cutting; embedding; staining and mounting, Frozen tissue histology
- Transfusion medicine: Blood banking, Component separation, Coomb's test and Cross match
- ECG: Resting ECG.

- **B.Sc. (Bachelor of Science) in Biochemistry: May 2014**
  C.U. Shah Science College, Gujarat University- Ahmedabad, Gujarat, India
  Courses studied: Biochemistry (Major), Zoology and Chemistry. Courses in Biochemistry: Metabolism, molecular biology, cell biology, Microbiology, Nutrition and dietetics, Applied Biotechnology, Immunology.

- **International Credential Evaluation by World Education Services: September 10,2018**

RESEARCH EXPERIENCE:

- **Hospital Laboratory Volunteer: March 2018 – February 2019**
  Toronto General Hospital - Toronto, ON

- Histopathology Laboratory - Administrative Support
  - Sorting and filing surgical slides in the appropriate files
  - Assist physicians by finding and pulling the requested surgical slides

  Genome Diagnostics Laboratory – Administrative Support
  - Photocopying, collating, organizing and maintaining supplies, test results sorting and filing

- **Research Student Volunteer: September 2018 - January 2019**
  Dr. Anthony Scime's Lab, York University- Toronto, ON
  Research Project: To discriminate effects of Rbl 1 in cancer cell lines
  - Aim was to acquire Rbl1 gene (p107 Protein) in Mitochondrial DNA of HT29 and MCF7 Cancer cell lines.

  Techniques used: Understanding of GLP and WHIMS, Transfection, Large scale amplification, flow cytometry, cell lysis techniques, Immunofluorescence, Confocal, fluorescence and light microscopy, western blot analysis, Immunoprecipitation western blot, Microplate Spectrophotometer.

- **M.Sc. Research Project:** Efficacy study of *Ferula Asafoetida* extracted volatile oil for treating liver inflammation and gut dysbiosis in rats. Supervisor: Dr.Sriram Seshadri
  - Objective was to investigate the efficacy of test compounds for their anticancer potential and to ascertain the role of gut microflora alteration in cancer and subsequently to evaluate the efficacy of volatile oil in modulating the altered flora
  - Collaborative projects:
  1. Understanding the gut-micro flora alteration following high sugar diet and high fat diet
  2. Using short chain fatty acids as a novel treatment strategy for type II diabetes
  3. Understanding liver inflammation due to gut micro floral alteration in diet induced diabetes
  4. Understanding the role of statins in induction of insulin resistance and aggravatingdiabetes characteristics

  Techniques used: RNA isolation from various tissues, cDNA synthesis DNA isolation from bacteria, DNA purification, quantification and extraction, Q-PCR, RT-PCR, electrophoresis, DNA gel analysis, Biochemical tests, enzymatic assays, in vivo practices on rats and mice with all aspects, UV-visible absorption and fluorescence spectroscopy, Primer designing, BLAST, Microsoft Office, Graphpad Prism, Mendeley

- **Internship training: May 2016- June 2016**
  Gujarat Cancer and Research Institute- Ahmedabad, Gujarat, India

Training program at Biochemistry Research Division, Cell Biology Division, Molecular Endocrinology Division, Immunohistochemistry Division, and Medicinal Chemistry & Pharmacogenomics Division at Cancer Biology Department
Techniques learned: FISH, Karyotyping, Immunohistochemistry

SOFT SKILLS:

- A good team player
- Problem solving & Creative
- Interpersonal skills and relationship building
- Patient and responsible

PUBLICATION:

Verma S., Khambhala P., Joshi S., Kothari V., **Patel T**. and Seshadri S. Evaluating the role of Dithiolane rich fraction of *Ferula asafoetida (*Apiaceae) for its anti-proliferative and apoptotic properties - *In vitro* studies. Experimental Oncology 2019; 41, 2, 90–94.

Abstract: The study investigates the anti-cancer potentials of microwave extracted essential oil of *Ferula asafoetida* through in vitro experiments. The phytochemical investigation of *Ferula asafoetida* suggested presence of high concentrations of Dithiolane which might possess anti-proliferative activity. The essential oil exerted anti proliferative effects on human liver carcinoma cell line (HepG2 and SK-Hep1) in a dose-dependent manner. Our data suggest the presence of bioactive compounds in asafoetida, capable of augmenting liver carcinoma cells by induction of apoptosis and altered NF-κB and TGF-β signalling and increasing the level of Caspase3 and TNF-α.

SCIENTIFIC CONFERENCES, WORKSHOPS & TRAININGS:

- Completed training for Laboratory Patient Technician at LifeLabs, Toronto, Canada. *26thAugust-14thSeptember, 2019.*
- Achieved Phlebotomy workshop certificate form CJ Health College, Toronto, Canada. *22ndJune, 2019*
- Participated in National Conference on “Malaria Parasite Biology: Drug Designing & Vaccine Development” Nirma University, India. *9th-10thSeptember, 2016*
- Participated in 6th International translational cancer research conference “prevention and treatment of cancer: hypes and hopes” by Gujarat Cancer and Research Institute, India. *4th-7thFebruary, 2016*
- Presentation on ELISA in Science Excellence National Conference from Department of Botany, Gujarat University, India. *4thJanuary, 2014*

HOBBIES/ EXTRA CURRICULUM ACTIVITIES/CULTURAL ACTIVITIES:

- Cooking
- Arts/Painting
- Badminton
- Group Folk dance in annual cultural festival, Nirma University, 2015- Awarded 2nd prize
- Group painting on wall in annual function, C.U.Shah Science College, 2011- Won 3rd prize.
- Completed “Rashtra Bhasa- Kovid” examination by Rashtra Prachar Samiti, Vardha in 2009. National Language examination- India)

REFERENCES:

Available on request