

RESEARCH SCIENTIST

Professional Summary

Highly skilled, meticulous and data driven Research Scientist specializing in biochemistry, molecular biology, and virology. My ability to quickly adapt to change, along with a learners mindset has allowed me to grow, mature and apply my knowledge in technical applications, research and related projects with humility and quality.

Skills

- DNA/RNA extraction, PCR testing including qPCR and ddPCR, reverse transcription, gel electrophoresis, western blotting, spectrophotometers and fluorometer, cell culture, cell sorting, microscopy, DNA/cell standard preparation, cell counting, working with human tissue, cells and blood
- Lab data analysis, protocol design, create standard operation procedure, work instruction and forms
- Translation services with focus on Chinese and English
- Lab management: lab training and supervision including technical skills, safety and procedures, lab moving, new lab design, construction and set up including a BSL-2 lab, budget planning, lab supply, service and equipment price negotiating, purchasing and inventory management, lab work schedule, shipping, laboratory maintenance and equipment calibration arrangement and performing
- Proficient in Microsoft and Adobe technologies
- Adobe, Supervision
- Budget planning, Transcription
- Calibration, Translation
- Cell culture, Troubleshooting
- Chinese, Validation
- Data analysis, Western blotting
- DNA
- English
- FDA approval
- Focus
- Forms
- Hiring
- HR
- Instruction
- Internal audit
- Inventory management
- Inventory
- Inventory control
- ISO
- Logistics
- Market
- Office
- Negotiating
- Organizing
- PCR
- Presentations
- Procurement
- Protocols
- Purchasing
- Reporting
- Safety
- Sample preparation
- Shipping
- Standard operation procedure
- Sorting

Work History

Research Scientist , 01/2018 to Current

Intel Corp. â€“ Hudson , OH

- Collaboration with Zhu Lab to develop the assay as a commercial medical device, seek FDA approval and promote to the market.
- Conducting lab work of previous job and provide comprehensive data analysis to improve and validate the assay in preparation for FDA

approval.

- Develop protocols and compliance: SOPs, WIs and forms to comply with FDA (21 CFR part 820), ISO (13485:2016), CLIA and CAP regulations.
- Participated in companies FDA PMA process (FDA review for class III medical device).
- Managed design, requirements and build execution of lab space and equipment, including procurement of lab equipment and supplies.
- Managed lab logistics including budget planning, procurement, lab work schedule, inventory control, compliance of safety and procedures, maintenance and calibration and shipping.
- Set up a manufacturing facility, developed manufacturing procedures including QC process and manufacture the HIV-1 DNA quantitative kit.
- Perform internal audit of QC department.
- HR responsibilities including hiring and training new employees including compliance of lab technical skills and process, safety procedures, and facilitating company events.
- Translation services from China office; including presentation of relevant information.

Research Scientist , 09/2017 to 07/2018

Intel Corp. "Irvine , CA

Laboratory Technician , 10/2016 to 08/2017

- Project: HIV-1 DNA ultra-sensitive detection assay development and validation, including assay's limit of quantification, precision and accuracy and stability including leading the project of validating the specificity and limit of quantification of the assay.
- DNA/RNA extraction and purification, qPCR running and data analysis, reverse transcription, cell culture of 8E5, U1 and ACH2 cells in a BSL-2 lab, cell counting, magnetic cell sorting of CD4 cells, sample dilution, DNA/cell standard preparation, sample preparation, troubleshooting for whole lab work.
- Liquid nitrogen freezer and incubator set up, laboratory maintenance, autoclave, equipment calibration, lab supply and equipment purchasing, obtaining clinical samples from other institutes.
- Protocol design, leading a project of LDT, HR responsibilities including hiring and training new employees including compliance of lab technical skills and process, safety procedures.
- Responsible for seminar presentations, lab meeting agenda/record, lab work record design and organizing, inventory and clinical samples.
- Clinical samples testing, analysis and reporting.
- Samples from different cohorts and blind samples from other labs of University of Washington, UCSD, Yale University and others.
- Modify assay standard and qPCR master mix based on project results.
- Develop protocols and SOPs required for CAP lab certification.

Education

Bachelor of Arts : Biochemistry , 06/2016

University of Washington - City , State

Work History

Research Scientist , 01/2018 to Current

Tech Air "Medford , OR

- Collaboration with Zhu Lab to develop the assay as a commercial medical device, seek FDA approval and promote to the market.
- Conducting lab work of previous job and provide comprehensive data analysis to improve and validate the assay in preparation for FDA approval.
- Develop protocols and compliance: SOPs, WIs and forms to comply with FDA (21 CFR part 820), ISO (13485:2016), CLIA and CAP regulations.
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Research Scientist , 09/2017 to 07/2018

Company Name "City , State

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- Liquid nitrogen freezer and incubator set up, laboratory maintenance, autoclave, equipment calibration, lab supply and equipment

- purchasing, obtaining clinical samples from other institutes.
- Protocol design, leading a project of LDT, HR responsibilities including hiring and training new employees including compliance of lab technical skills and process, safety procedures.
- Responsible for seminar presentations, lab meeting agenda/record, lab work record design and organizing, inventory and clinical samples.
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- Modify assay standard and qPCR master mix based on project results.
- Develop protocols and SOPs required for CAP lab certification.

Accomplishments

- Exemplar Global Certification of ISO 13485:2016 Internal Auditor, issued by AXEON Corporation, an ISO/RA Consulting Firm - Gained Aug.
- 2019.
- Certificate in DOT/IATA Hazmat Shipping (DOT HM-181, HM 126F, HM 232 Hazmat Employee #1058 49 CFR Part 172.704 (subpart H) & IATA Dangerous Goods Shipping Course) - Gained Jul.
- 2019, Exemplar Global Certification of ISO 13485:2016 Internal Auditor, issued by AXEON Corporation, an ISO/RA Consulting Firm - Gained Aug.
- 2019 Certificate in DOT/IATA Hazmat Shipping (DOT HM-181, HM 126F, HM 232 Hazmat Employee #1058 49 CFR Part 172.704 (subpart H) & IATA Dangerous Goods Shipping Course) - Gained Jul 2019 VOLUNTEERING University of Washington Medical Center - Seattle, WA.
- Transport patients, deliver patients correspondence, gather/organize wheelchairs and support information desk staff.
- Assist with patient rounds, fulfill patient requests, provide help for patients and families in waiting room, stuff stocked trauma rooms, patient rooms and other area when needed, assisted Nurses and Medical Assistants.

Publications

- T. Liao, J. Feng, C. Yuan, J. Wu, T. Zhu. Poisson Approach of dealing with Very Low Copy HIV-1 DNA Quantification using an ultrasensitive qPCR and a precision criterion. Submitted to Molecular and Cellular Probes.
- C. Yu, M. Chang, C. Yuan, Y. Zhu, C. J. Spragg, T. Mulhern, J. Wu, H. Zhu, M. L. Hwang, F. Hladik, KR Jerome, R. W. Coombs, T. Zhu. A sensitive real-time PCR assay to quantify and monitor cell-associated HIV-1 DNA in diverse HIV-1 subtypes of Group M. Ready to submit to Diagnostic Microbiology and Infectious Disease.
- M. Chang, C. Yuan, C. Yu, J. Wu, T. Mulhern, B. Smithisler, R. W. Coombs¹, T. Zhu. (2019). A sensitive HIV-1 DNA quantitative PCR assay for measuring the residual HIV-1 reservoir. ASM Clinical Virology Symposium 2019 (Poster)
- T. Liao, C. Yuan, J. Wu, T. Zhu. (2019). Estimation of # of qPCR replicates needed to precisely quantify very low copy total HIV-1 DNA using statistical modeling and an ultrasensitive qPCR. ASM Clinical Virology Symposium 2019 (Poster)
- C. Yu, M. Chang, C. Yuan, T. Mulhern, J. Wu, J. P. Ortega, T. Zhu. (2019). A sensitive cross-clade real-time quantitative PCR assay to measure total HIV-1 DNA in infected patients ASM Clinical Virology Symposium 2019 (Poster)

Skills

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- Proficient in Microsoft and Adobe technologies,
- Adobe, budget planning, calibration, cell culture, Chinese, data analysis, DNA, English, FDA approval, focus, forms, hiring, HR, instruction, internal audit, inventory management, inventory, inventory control, ISO, logistics, market, office, negotiating, organizing, PCR, presentations, procurement, protocols, purchasing, reporting, safety, sample preparation, shipping, standard operation procedure, sorting, supervision, transcription, Translation, troubleshooting, validation, western blotting