

Professional Summary

History of providing key protein reagents for Drug Discovery targets From shake flask to 20L production scale of E.coli recombinant expressed proteins and plasmid dna purifications to provide endotoxin free dna for HEK transient expression. Work across boundaries with eighteen years of experience, working collaboratively with different groups to achieve goals and contribute to the success of GSK. Drive innovation by actively scouting out novel technologies to improve current processes and reduce cycle time for providing quality protein reagents.

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SENIOR SCIENTIST

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Accomplishments

- Silver Award: For efforts towards reaching a major milestone for the Heparin project: demonstration of anti-factor Xa activity by heparin that has been made biosynthetically by you, by using all 6 in-house engineered, purified and active enzymes.
- Working tirelessly with complex science and multiple lines in PTS, and through tight deadlines & constant hurdles, you have carried us to a point to be able to discuss the possibility of delivering to the world a safer version of a major medicine.
- 2013) Bronze Award: For my perseverance in establishing a sustainable crystal system for the LPXC program team
- Initial efforts to crystallize the protein required extended crystallization incubations.
- You continued to optimize the construct until a robust process was in place.
- You have demonstrated the GSK behavior of continuous improvement.
- 2013) Bronze Award: For work performed on the Antibacterial DPU target LpxC which led to the first internal series of crystal structures. One with a literature tool compound and another with one of the important representative compounds from our internal program
- What initially seemed to be a reasonable system (bacterial protein with literature precedent), ended up being a rather challenging target to work on.
- I'd like to use this to acknowledge the hard work that was put in.
- 2013) Bronze Award: Recognition for Tia's time and effort to help train Chris Morgan to perform whole cell fermentations.
- This work was critical in starting to evaluate microbial strains for vitamin D hydroxylation in support of the calcipotriene project.
- In addition, this skill set will be broadly applicable to many other aspects of synthetic biochemistry efforts in PTS in the future.
- 2012) Bronze Award: This award is for quickly reorganizing the large scale expression queue in order to generate a batch of UppS-1 recombinant protein to support the ongoing FBDD effort without a delay.
- 2012) Bronze Award: In recognition of your effort in preparing BRAD-facilities and operations for the safety audit, and for serving as safety representative for BRAD Philadelphia in 2012, ensuring compliance of GSK EHS requirements.
- Well done! (2012) Bronze Award: Several identified moiramide analogs had demonstrated low nM target affinities for S. aureus and S. pneumoniae ACC and displayed MICs against these organisms in the low ug/mL range.
- In an effort to further optimize this class of antibacterials against Gram-negative pathogens, the program team has requested assay and crystallography support for Gram negative bACC proteins.
- Previous learnings have enabled a rapid and effective strategy for the development and purification of Gram negative reagents, activity assays, and a first in the world structure of *Acinetobacter baumannii* ACC carboxyltransferase.
- 2012) Bronze Award: Nominated by Gordon McIntyre and Chris Jones: For your pivotal role in the parallelized design & production of multiple plasmid & protein constructs of Smyd3 that produced one of the first active forms of the histone methyltransferase, Smyd3.
- This enzyme was found to crystallize in complex with a methyltransferase inhibitor, resulting in the first-to-GSK structure of Smyd3 just 4 months from program initiation.
- 2010) Bronze Award: For cross-site contributions to the production of protein, crystals, and structure of the oncology target SENP1.
- 2010) Bronze Award: For your contributions to the Bach1 reagent and assay production: Previous attempts to develop a Bach1/ MafK oligo based assay within the former hemoxigenase program team (CVU CEDD) were unsuccessful in part because of difficulties in generating well-behaved reagents.
- A new protocol for the refolding of MafK from E.coli inclusion bodies has resulted in the delivery of nearly 15 mg of fit for purpose purified protein, and the development of the first homogeneous assay for Bach1 activity.
- This is a significant milestone for the team, and will now enable a high throughput screen for the target, which was previously thought to be unobtainable.
- 2009) E. coli recombinant protein optimization and expression Plasmid Purifications Purification of antibodies EHS Safety Representative (2007-Present) eLNB Lead User for Protein Cellular Sciences group Health & Well Being Champion for department (2016-Present) CERPS Authorized User (Present) SDS-Page, Biosprint, RP-HPLC, and Western Blot expression analysis.

Skills

Work History

Senior Scientist ,

- Protein Cellular Sciences (PCS).

Lead , 01/2005 to Current
Eurofins Scient. â€“ Pensacola , FL

- and maintain all microbial productions to provide protein reagents for all areas of drug discovery (e.g., HTS, Assay Development, ELT , and Crystallography).
- Acquired novel disposable bioreactors for E.coli protein production to replace Steam-in-Place units for move to UP site, only customer in U.S.
- with Cell-tainer units.
- Oversaw in-house media/plate preparation for entire department, and trained an individual to perform media prep functions.

Associate Scientist , 01/2001 to 01/2005
Toro Company â€“ Riverside , CA

- Maintained microbial and mammalian culture from vial to through bioreactor production.
- Performed process optimization experiments for microbial expression systems.
- Discussed protein constructs/programs through data presentation and staff meetings.

Biopharmaceutical Manufacturing Associate , 01/2000 to 01/2001
Johnson & Johnson â€“ Joliet , IL

- Prepared Media and Buffer solutions for Large Scale Cell Culture for Biopharm GMP area.
- Worked in GMP Cell Culture area on large scale media transfer and sterilization of 900L-1250L Steam-in-Place Fermentors.
- Updated Standard Operating Procedures for GMP processes when necessary.

Education

Bachelor of Science : Biology , 1999

Millersville University - City , State

Biology

Publications

Brandt M., Szewczuk LM, Zhang H, Hong X, McCormick PM, Lewis TS, Graham TI, Hung ST, Harper-Jones AD, Kerrigan JJ, Wang D-Y, Dul E, Hou W, Ho TF, Meek TD, Cheung MH, Johanson KO, Jones CS, Schwartz B, Kumar S, Oliff A, and Kirkpatrick RB. Development of a high-throughput screen to detect inhibitors of TRPS1 sumoylation. ASSAY and Drug Development Technologies. 2013 11:308-325. Lu Q, Burns MC, McDevitt PJ, Graham TL, Sukman AJ, Formwald JA, Tang X, Gallagher KT, Hunsberger GE, Foley JJ, Schmidt DB, Kerrigan JJ, Lewis TS, Ames RS, Johanson KO. Optimized procedures for producing biologically active chemokines. Protein Expr Purif. 2009 Jun;65(2):251-60. Gooljarsingh LT, Fernandes C, Yan K, Zhang H, Grooms M, Johanson K, Sinnamon RH, Kirkpatrick RB, Kerrigan J, Lewis T, Amone M, King AJ, Lai Z, Copeland RA, Tummino PJ. A biochemical rationale for the anticancer effects of Hsp90 inhibitors: slow, tight binding inhibition by geldanamycin and its analogues. (PNAS) Proc Natl Acad Sci U S A. 2006 May 16;103(20):7625-30.

Skills

GMP, meetings, novel, optimization, processes