



Skylia A. Duncan, PhD
Technical Specialist

Experienced research scientist provides scientific support for patent prosecution and counseling

Skylia A. Duncan, PhD focuses on US and foreign patent prosecution in the life science area. Skylia will assist our team with patent applications, prosecution, diligence, and other counseling matters by evaluating the underlying technology of inventions. Skylia is also pursuing her certification as a patent agent.

Prior to joining McNeill Baur PLLC, Skylia completed a postdoctoral research fellowship at Memorial Sloan Kettering Cancer Center in molecular pharmacology, studying the pharmacologic tractability of ceramide rich platform-mediated CD28 co-stimulation for advanced T cell activation and proliferation. She performed extensive independent research employing techniques such as confocal immunohistology, 2D and 3D confocal assays, ceramide inhibition and augmentation assays, cell proliferation (viability and cytotoxicity) assays such as MTT assays and LIVE/DEAD cell staining, cloning/protein expression, Taqman™ qRT-PCR, single ELISAs, flow cytometry, animal, and cell culture work.

Previously, she completed her PhD at Alabama State University in the field of Microbiology (dual focus in Immunology and Nanotechnology) at the Center of NanoBiotechnology Research Center (CNBR). Her research focused on delineating the mechanisms associated with the regulatory role of SOCS proteins in the Interleukin-10 control of *Chlamydia* pathogenesis as well as encapsulating Interleukin-10 in pegylated nanoparticles to harness and prolong its therapeutic effects for treatment of Chlamydial disease. She employed several bioinstrumentation techniques for these projects include animal work, human and mammalian cell culture and proper infectivity, cloning/protein expression, protein purification, RNA purification, DNA purification, Taqman™ qRT-PCR, multiplex and single ELISAs, confocal microscopy, flow cytometry, CRISPR gene editing, formulation, production, purification, and quantification of nanoparticles, imaging, zetasizer, zeta potential, and numerous biostatistics and data programs.

Skylia is also involved with several life science organizations including the American Society of Microbiology, American Association of Immunologists, Chlamydia Basic Research Society, Beta Kappa Chi Honor Society, Earl Lester Cole Honor Society, and the Alpha Lambda Delta Honor Society.

412.677.0212
skylia.duncan@mcneillbaur.com
McNeill Baur PLLC
10752 Deerwood Park Boulevard South
Waterview II, Suite 100
Jacksonville, FL 32256

Education
Alabama State University
PhD, Microbiology, 2019,
magna cum laude

Grambling State University
BS, Biology, 2011, magna cum laude

Skyla A. Duncan-Jules, PhD

Selected Publications

"Suppressors of Cytokine Signaling (SOCS) Proteins as Potential Mediators of Interleukin-10 Modulation of Inflammatory Responses Induced by Live *Chlamydia muridarum* and its Major Outer Membrane Protein (MOMP) in Mouse J774 Macrophages," *Mediators of Inflammation* (2020)

"Prolonged Release and Functionality of Interleukin-10 Encapsulated within PLA-PEG Nanoparticles," *Nanomaterials* 9(8):1074 (2019)

"SOCS Proteins as Regulators of Inflammatory Responses Induced by Bacterial Infections: A Review," *Frontiers in Microbiology* 8(2431) (2017)

"A nanovaccine formulation of *Chlamydia* recombinant MOMP encapsulated in PLGA 85:15 nanoparticles augments CD4⁺ effector (CD44^{high} CD62L^{low}) and memory (CD44^{high} CD62L^{high}) T cells in immunized mice," *Nanomedicine* 102257 (2020) (coauthor)

"The *Chlamydia* M278 Major Outer Membrane Peptide Encapsulated in the Poly(lactic acid)-Poly(ethylene glycol) Nanoparticulate Self-Adjuvanting Delivery System Protects Mice Against a *Chlamydia muridarum* Genital Tract Challenge by Stimulating Robust Systemic and Local Mucosal Immune Responses," *Frontiers in Immunology* 9:2369 (2018) (coauthor)

"Interleukin-10 Conjugation to Carboxylated PVP-Coated Silver Nanoparticles for Improved Stability and Therapeutic Efficacy," *Nanomaterials* 7(7):165 (2017) (coauthor)

"Caveolin-Mediated Endocytosis of the *Chlamydia* M278 Outer Membrane Peptide Encapsulated in Poly(lactic acid)-Poly(ethylene glycol) Nanoparticles by Mouse Primary Dendritic Cells Enhances Specific Immune Effectors Mediated by MHC Class II and CD4⁺ T cells," *El Sevier* 159:130-145 (2018) (coauthor)

"Future of human *Chlamydia* vaccine: Potential of self-adjuvanting biodegradable nanoparticles as safe vaccine delivery vehicles," *Expert Rev Vaccines* 17(3):217-227 (2018) (coauthor)