

# WILLIAM GUNN

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## SUMMARY OF SKILLS

- Extensive experience with experimental design
- Excellent analytical skills
- Ability to work with a large team of varied kinds of expertise
- Thorough understanding of the principles of immunoassay development
- Competent in core molecular biology techniques per *Molecular Protocols*
- Experience in development of small animal experimental models
- Proficient in mammalian and bacterial cell culture including clean room technique and BSL3 procedures
- Competent in histological techniques, including standard as well as immunohistochemical and fluorescent methods
- Extensive experience with adult stem cells, particularly mesenchymal and marrow-derived stem cells
- Thorough understanding of human and murine bone biology
- Experienced with methods for protein-protein conjugation as well as attachment of biomolecules to surfaces
- Familiar with the operation of flow cytometry, FACS, confocal and standard microscopy, laser microdissection, chromatographic and spectrophotometric equipment
- Expertise with Microsoft Office Suite(Excel, Word, and Powerpoint), NCBI Bioinformatics webtools, and Wordpress web publishing platform. Some familiarity with Stereo Explorer stereology software and R programming language.

## WORK EXPERIENCE

**GENALYTE, Inc.** *Assay Development Scientist*

8/2007 – 9/2009

Lead scientist responsible for development of surface chemistry and assay design.

### *Surface Chemistry*

- Developed protocol for coupling biomolecules to sensor surface
- Performed detailed characterization of dynamic range, sensitivity, and drift
- Interfaced with engineering team to determine design of assay cartridge
- Achieved highly-sensitive, zero-drift bioconjugation protocol

### *Assay Development*

- Sourced and screened antibodies and ancillary reagents for in-house assay development
- Designed and carried out multiplex, label-free assays in a range of sample matrices
- Demonstrated technology to potential investors and collaborators

### *Team Leadership*

- Led team to deliver company development objectives within strict deadlines
- Met with engineering project leads to obtain in-depth familiarity with mechanical, optical, fluidic and software-related aspects of Gen2 and alpha instruments
- Managed inventory of reagents and supplies
- Interviewed candidates for laboratory positions

## EDUCATION

**Tulane University** *Ph.D. in Biomedical Sciences*

August 2009

Dissertation: "**The Role of Human Multipotent Mesenchymal Stromal Cells in the Repair of Bone.**"

- This work led to the development of a candidate drug for treatment of osteolytic lesions in multiple myeloma.

### *Adult Stem Cells*

- Isolated and cultured multipotent mesenchymal stromal cells (MSCs) from human and rodent sources.
- Designed experiments to identify differentiation and multipotency factors acting on hMSCs.
- Developed novel **high-throughput** assays for detection and quantitation of osteogenic differentiation.

### *Multiple Myeloma Animal Model*

- Developed animal model for multiple myeloma which reproduced clinically relevant bone involvement.
- Isolated, cultured, and assayed myeloma cell lines, mMSCs, and bone marrow from experimental animals
- Performed necropsy, tissue collection and processing, histological and immunostaining, and ELISA.

**The University of Southern Mississippi** *B.S. Molecular Biology*

Fall 2001

- Undergraduate Honors Program
- Undergraduate research on surfactant systems for self-initiated polymerization published in *Journal of Physical Chemistry*
- Presented research projects on mutagenesis of bacterial flagellar proteins to faculty
- Presented research on carbon source regulation in *S. cerevisiae* to Southeastern Regional Yeast Genetics Conference

## LEADERSHIP AND AFFILIATIONS

- Louisiana Board of Regents Fellow
- Member, International Society for Cellular Therapy
- Teaching Assistant for Chemistry and Biology, Tulane University, 2002-2006

## SELECTED PATENTS & PUBLICATIONS

### PATENTS

GSK3 $\beta$  inhibitors for the treatment of osteolytic lesions in multiple myeloma. Provisional U.S. and European patent

### JOURNAL PUBLICATIONS

Gregory,C., Green,A., Lee,N., Rao,A. & Gunn,W. [The promise of canonical Wnt signaling modulators in enhancing bone repair.](#) Drug News & Perspectives 19, 445-452 (2006).

Gunn,W. et al. [A crosstalk between myeloma cells and marrow stromal cells stimulates production of DKK1 and interleukin-6: a potential role in the development of lytic bone disease and tumor progression in multiple myeloma.](#) Stem Cells 24, 986-991 (2006).

Gregory,C. et al. [Dkk-1-derived Synthetic Peptides and Lithium Chloride for the Control and Recovery of Adult Stem Cells from Bone Marrow.](#) Journal of Biological Chemistry 280, 2309-2323 (2005).

Gregory,C. et al. [How Wnt Signaling Affects Bone Repair by Mesenchymal Stem Cells from the Bone Marrow.](#) Annals of the New York Academy of Sciences 1049, 97-106 (2005).

Gregory,C., Gunn,W., Peister,A. & Prockop,D. [An Alizarin red-based assay of mineralization by adherent cells in culture: comparison with cetylpyridinium chloride extraction.](#) Anal. Biochem 329, 77-84 (2004).

John A. Pojman,\* Grady Gunn, Chilibra Patterson, Jim Owens, and Chris Simmons [Frontal Dispersion Polymerization](#) J. Phys. Chem. B, 102 (20), 3927 -3929, 1998. jp9814911 S1089-5647(98)01491-6

Recent citations of my work available here: <http://www.citeulike.org/user/williamgunn/tag/citesme>

### REFERENCES

Available upon request