

James L. Wittliff, Ph. D., M.D. hc, FACB

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University of Louisville Schools of Medicine and Dentistry



Wittliff, J.L., Andres, S.A. Estrogen-like Pharmaceuticals. Encyclopedia of Toxicology, 3rd Edition. Wexler, Philip (ed.) Elsevier Press. pp 475-479, 2014. DOI: 10.1016/B978-0-12-386454-3.01017-4

Wittliff, J.L., Andres, S.A. Xenoestrogens. Encyclopedia of Toxicology, 3rd Edition. Wexler, Philip (ed.) Elsevier Press. pp 480-484, 2014. DOI: 10.1016/B978-0-12-386454-3.01018-6

Wittliff, J.L., Andres, S.A. Progesterone and Progestin Mimics. Encyclopedia of Toxicology, 3rd Edition. Wexler, Philip (ed.) Elsevier Press. pp 1073-1076, 2014. DOI: 10.1016/B978-0-12-386454-3.01071-X

External Professional Activities (2013-2014):

Journal of Clinical Laboratory Analysis, Associate Editor

Medical Advisory Board, Grant Review Panel for Phi Beta Psi Charity Trust

Proof of Concept Program: Commercialization Gap Grants, Office of the President, University of California System, 2012-13

Honors & Awards

2013 Inaugural Poster Award for Excellence in Research, Personalized Medicine Division, American Association for Clinical Chemistry, Houston, TX

2014 Morton K. Schwartz Award for Significant Contributions in Cancer Research Diagnostics, American Association for Clinical Chemistry

2014 Poster Award for Excellence in Research, Molecular Pathology Division American Association for Clinical Chemistry, Chicago, IL

Clinical Laboratory Licenses

1976-present, Founder/Director, Hormone Receptor Laboratory, University of Louisville

Commonwealth of Kentucky (State License #200078 Endocrinology & Chemistry)

Health Care Financing Administration (Federal License – CLIA #18D0648476, Endocrinology)

1984-present, Fellow of the National Academy of Clinical Biochemistry (FACB/ AACC), Clinical Laboratory Medicine

2011-present, Fellow of the American Society for Clinical Pathology



Scholarly Activities:

For four decades, my laboratory has investigated the biological properties and cellular roles of estrogen and progesterin receptors in several human cancers with the goal of improving their diagnostics and treatment. For example, as the inventor of the 1st FDA approved tests for estrogen and progesterin receptors with NEN/DuPont, I collaborated with the NSABP to launch Tamoxifen as an adjuvant treatment for breast cancer. As Director of the Hormone Receptor Laboratory and The Institute for Molecular Diversity & Drug Design, our program focuses on mechanisms by which steroid and peptide hormones and their mimics induce target cells to synthesize gene products and regulate biological networks. Our goals include the assessment of environmental and therapeutic estrogen mimics to determine their role in human Health. The laboratory is examining the genomics and proteomics of specific cell types isolated by the technology of laser capture microdissection (LCM) to study relationships between gene or protein expression profiles and certain cell phenotypes or host behaviors. In addition to developing novel molecular diagnostics, our studies have deciphered new molecular targets for drug design. Our laboratory pioneered the application of LCM for deciphering gene signatures derived from Next Generation Sequencing of mRNA and miRNA expressed by specific cell types. Many investigations utilize a unique tissue biorepository, containing thousands of specimens of human cancer biopsies, and an associated comprehensive Database of patient characteristics and clinical follow-up. Our experience in handling and processing of human tissue biopsies for sophisticated microgenomics and proteomics based studies and our decades of developing and using comprehensive databases have been of matchless value for our collaborations.

Grants:

National Institutes of Health (1R01DE019243-01)

Role: Co-Investigator (PI: Douglas S. Darling)
Mathematical Model of Parotid Acinar Differentiation
Phi Beta Psi Charity Trust

Role: Co-Principal Investigator (PI: Theodore S. Kalbfleisch),
Influence of Smoking on Gene Expression Profiles That Predict Breast Cancer Behavior

Competitive Enhancement Grant, University of Louisville

Role: Principal Investigator
Clinical Significance of Protein Tyrosine Phosphatases in the Breast Cancer Environment

Publications (2013-2014):

Andres, S.A., Bumpus, S.B., **Wittliff**, J.L. Assessment of Phytoestrogen and Mycoestrogen Recognition by Recombinant Human Estrogen Receptor- α Using Ligand Titration Arrays. *Phytochem Anal* 24:357-366, 2013. PMID: 23401334

Andres, S.A., **Wittliff**, J.L., Cheng, A. Protein Tyrosine Phosphatase 4A2 Expression Predicts Overall and Disease-free Survival of Human Breast Cancer and is Associated with Estrogen and Progesterone Receptor Status. *Horm Cancer* 4:208-221, 2013. PMID: 23568563

Andres, S.A., Brock, G.N., **Wittliff**, J.L. Interrogating Differences in Expression of Targeted Gene Sets to Predict Breast Cancer Outcome. *BMC Cancer* 13:326-343, 2013. PMID: 23819905

Kruer, T.L., Cummins, T.D., Powell, D.W., **Wittliff**, J.L. Characterization of Estrogen Response Element Binding Proteins as Biomarkers of Breast Cancer Behavior. *Clin Biochem* 46:1739-46, 2013 Epub ahead of print July 16, 2013. PMID: 23868020

Seelan, R.S., Warner, D.R., Mukhopadhyay, P.M., Andres, S.A., Smolenkova, I.A., **Wittliff**, J.L., Pisano, M. M., Greene, R.M. Epigenetic Analysis of Laser Capture Microdissected Fetal Epithelia. *Anal Biochem* 442:68-74, 2013 Epub ahead of print July 30, 2013. PMID: 23911529

Andres, S.A., Smolenkova, I.A., **Wittliff**, J.L. Gender-associated Expression of Tumor Markers and a Small Gene Set in Breast Carcinoma. *Breast* 23:226-33, 2014 Epub ahead of print March 21, 2014. PMID: 24656773

Wittliff, J.L., Andres, S.A. Estrogens & Their Conjugates. *Encyclopedia of Toxicology*, 3rd Edition. Wexler, Philip (ed.) Elsevier Press. pp 462-466, 2014. DOI: 10.1016/B978-0-12-386454-3.01014-9

Wittliff, J.L., Andres, S.A. Catechol Estrogens. *Encyclopedia of Toxicology*, 3rd Edition. Wexler, Philip (ed.) Elsevier Press. pp 467-470, 2014. DOI: 10.1016/B978-0-12-386454-3.01015-0

Wittliff, J.L., Andres, S.A. Phytoestrogens & Mycoestrogens. *Encyclopedia of Toxicology*, 3rd Edition. Wexler, Philip (ed.) Elsevier Press. pp 471-474, 2014. DOI: 10.1016/B978-0-12-386454-3.01016-2