ANDREW J. PIERCE, Ph.D.

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Eleven years managing and mentoring teams of Ph.Ds. and associates to deliver translational science. Industrial leadership at MedImmune (AstraZeneca) of matrixed oncology translational science development teams for large molecule immunomodulators and antibody-drug conjugates. Biomarker strategy and clinical implementation demonstrating proof of mechanism, proof of concept and enabling personalized medicine. Academic laboratory leadership developing novel assays and publishing translational cancer research in collaboration with clinicians and patients at the University of Kentucky Markey Cancer Center.

KEY ACCOMPLISHMENTS:

- **Delivered the Pipeline:** Transitioned seven candidate drugs from research into development with supporting translational strategy: three immunomodulators, two antibody drug conjugates, two classical signaling molecules.
- **Added Value:** Led Translational Science team and filed IND for α-HER3 monoclonal antibody program, subsequently out-licensed to Kolltan Pharmaceuticals as KTN3379.
- **Business Development:** Provided Translational Medicine due diligence assessment for successful acquisition of Spirogen – $200M in upfront payments.
- **Translational Research and Publishing:** Directed, mentored and graduated Ph.D. students with multiple first-author translational papers focused on genomic instability in adult and pediatric cancer patients: lung, colorectal and leukemia.

KEY STRENGTHS:

- **Translational Medicine:** Harmonization of pre-clinical research with early-phase clinical studies to achieve rapid proof-of-concept including strategy and development of biomarker-based patient selection. Selecting the right indication and the right patient sub-population for the right targeted therapeutic with companion diagnostics where appropriate.
- **Applied Personalized Medicine:** Prognostic/predictive/response oncology biomarker analysis. Expertise in molecular pathology, signaling pathway interpretation, targeted therapeutics and combination therapies.
- **Oncology Clinical Knowledgebase:** Proof of concept clinical trial design, options for achieving accelerated drug registration, radiology, pathology, surgical options, radiation medicine, medical oncology.

PROFESSIONAL EXPERIENCE:

SENIOR SCIENTIST: MEDIMMUNE, GAITHERSBURG MD (2011 – PRESENT)

Translational Medicine – Oncology

- Translational Science team leader for oncology immunotherapy programs: OX40 agonist and additional undisclosed targets. Matrixed team members representing translational medicine, research, toxicology, pathology, pharmacokinetics, pharmacogenomics, bioanalytical sciences, project management.
- Translational Medicine representative for Tremelimumab (CTLA4 immunomodulator – Phase 2b) and multiple antibody/drug conjugate programs. Ensure projects have suitable safety, PK/PD and efficacy data to maximize the likelihood of clinical success. Establish translational strategy with suitable biomarkers for patient enrichment/stratification including companion diagnostic, clinical proof of mechanism and rapid registration options supporting IND filing and early phase clinical campaign.
- Enable and direct portfolio-level studies that impact multiple projects within oncology and across therapeutic areas. Core member of tumor targeted therapeutics strategic group, antibody/drug conjugate toxicology-pathology working group.
- Align preclinical research, clinical development and bioanalytical sciences to convey derisked product development strategy to the highest level of MedImmune governance: candidate drug approval, IND filing, clinical campaign investment decisions.

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BIOMARKER ANALYST: N-of-One Therapeutics, Inc., Boston MA (2010 – 2011)

- Develop personalized health care (PHC) strategies for cancer patients through utilization of molecular biomarker testing and interpretation.
- Consult directly with clinical and translational experts to guide biomarker-based selection of clinical trials for personalized healthcare (PHC).

ASSISTANT PROFESSOR: University of Kentucky, Markey Cancer Center, Lexington KY (2003 – 2011)

Department of Microbiology, Immunology and Molecular Genetics; Graduate Center for Toxicology

- Set scientific direction, staffing and budgeting for a translational cancer cell biology laboratory involving multidisciplinary collaborative teams of clinicians and basic science researchers.
- Establish and maintain IRB and HIPAA documentation and regulatory compliance for studies of 200+ fully identified human subjects. Author study protocols and informed consent forms. Meet with and consent patients and families to translational studies.
- Senior author of six papers in peer-reviewed journals and two book chapters, with additional collaboratively authored papers.

EDUCATION AND TRAINING:

Senior Post-doctoral studies, Memorial Sloan-Kettering Cancer Center, NY (1997 – 2003)
Post-doctoral studies, Duke University, NC (1995 – 1997)
Ph.D., Molecular Genetics, University of North Carolina at Chapel Hill, NC (1990 – 1995)
B.Sc., (honors), Molecular and Cellular Biology, University of Toronto, Canada (1986 – 1990)

TECHNICAL EXPERTISE:

- Expert knowledge of flow cytometry (FACS): solid tumors, normal tissues, blood and cultured cells.

PROFESSIONAL SERVICE:

Editorial Boards:

- BioMed Central (BMC) Molecular Biology. (Associate Editor)
- American Journal of Translational Science. (Associate Editor)

Advisory Boards:

- HUGO Gene Nomenclature Committee – specialist advisor

Journal Reviewer:

- Journal of Biological Chemistry, Human Molecular Genetics, Genome Research, Nucleic Acids Research, Molecular Carcinogenesis, Journal of Cell Science, Frontiers in Bioscience, etc.

RECENT INVITED PLATFORM PRESENTATIONS:

- T cell Function and Modulation Meeting (Maui - 2013).
- Biorepositories and Biospecimen Research Branch Science Day "Pre-analytical variables and biomarkers in cancer" (NIH - 2013)

ACADEMIC MENTORING & TEACHING

- Ph.D. primary advisor for two graduate students. Doctoral degrees awarded 2010, 2011.
- Doctoral dissertation committee member for six graduate students.
- Six year course director and instructor for graduate level “Illustrated Topics in Advanced Molecular Genetics” class.

PUBLICATIONS:

PDF reprints: http://paralog.com/ajp/Pierce-reprints.htm
Citations from Google Scholar: http://scholar.google.com/citations?user=RKpZ0IoAAAAJ

2014 Killen MW, Stults DM, **Pierce AJ**. The gene cluster instability (GCI) assay for recombination. Methods in Molecular Biology 1105: 457-79.

2014 Stults DM, Killen MW, **Pierce AJ**. The sister chromatid exchange (SCE) assay. Methods in Molecular Biology 1105: 439-55.

2014 **Pierce AJ** and Jasin M. Measuring recombination proficiency in mouse embryonic stem cells. Methods in Molecular Biology 1105: 481-95. *updated reprint of 2004 paper*

2012 Killen MW, Stults DM, Wilson WA, **Pierce AJ**. Escherichia coli RecG functionally suppresses human Bloom syndrome phenotypes. BMC Molecular Biology 13:33.

2011 Killen MW, Taylor TL, Stults DM, Jin W, Wang LL, Moscow JA, **Pierce AJ**. Configuration and rearrangement of the human GAGE gene clusters. American Journal of Translational Research 3: 234-42.

2011 Stults DM, Killen MW, Shelton BJ, **Pierce AJ**. Recombination phenotypes of the NCI-60 collection of human cancer cells. BMC Molecular Biology 12:23

2011 Rajesh C, Baker DK, **Pierce AJ**, Pittman DL. The splicing-factor related protein SFPQ/PSF interacts with RAD51D and is necessary for homology-directed repair and sister chromatid cohesion. Nucleic Acids Res 39: 132-45.

2010 Zaitlin D, **Pierce AJ**. Nuclear DNA content in Sinningia (Gesneriaceae); intraspecific genome size variation and genome characterization in S. speciosa. Genome 53: 1066-82.

2010 Singh TR, Saro D, Ali AM, Zheng XF, Du CH, Killen MW, Sachpatzidis A, Wahengbam K, **Pierce AJ**, Xiong Y, Sung P, Meetei AR. MHF1-MHF2, a histone-fold-containing protein complex, participates in the Fanconi anemia pathway via FANCM. Mol Cell 37: 879-86.

2009 Stults DM, Killen MW, Williamson EP, Hourigan JS, Vargas HD, Arnold SM, Moscow JA, **Pierce AJ**. Human ribosomal RNA gene clusters are recombinational hotspots in cancer. Cancer Res 69: 9096-104.

2009 Killen MW, Stults DM, Adachi N, Hanakahi L, **Pierce AJ**. Loss of Bloom syndrome protein destabilizes human gene cluster architecture. Hum Mol Genet 18: 3417-28.

2009 Kurepa J, Wang S, Li Y, Zaitlin D, **Pierce AJ**, Smalle JA. Loss of 26S proteasome function leads to increased cell size and decreased cell number in Arabidopsis shoot organs. Plant Physiol 150: 178-89.

2008 Stults DM, Killen MW, Pierce HH, **Pierce AJ**. Genomic architecture and inheritance of human ribosomal RNA gene clusters. Genome Res 18: 13-8.

2005 **Pierce AJ**, Jasin M. Measuring recombination proficiency in mouse embryonic stem cells. Methods Mol Biol 291: 373-84.

2005 Nakanishi K, Yang YG, **Pierce AJ**, Taniguchi T, Digweed M, D'Andrea AD, Wang ZQ, Jasin M. Human Fanconi anemia monoubiquitination pathway promotes homologous DNA repair. Proc Natl Acad Sci U S A 102: 1110-5.

2005 Bindra RS, Gibson SL, Meng A, Westermark U, Jasin M, **Pierce AJ**, Bristow RG, Classon MK, Glazer PM. Hypoxia-induced down-regulation of BRCA1 expression by E2Fs. Cancer Res 65: 11597-604.

2004 Stark JM, **Pierce AJ**, Oh J, Pastink A, Jasin M. Genetic steps of mammalian homologous repair with distinct mutagenic consequences. Mol Cell Biol 24: 9305-16.

2002 Stark JM, Hu P, **Pierce AJ**, Moynahan ME, Ellis N, Jasin M. ATP hydrolysis by mammalian RAD51 has a key role during homology-directed DNA repair. J Biol Chem 277: 20185-94.

2002 Wiese C, **Pierce AJ**, Gauny SS, Jasin M, Kronenberg A. Gene conversion is strongly induced in human cells by double-strand breaks and is modulated by the expression of BCL-x(L). Cancer Res 62: 1279-83.

2002 Araujo FD, **Pierce AJ**, Stark JM, Jasin M. Variant XRCC3 implicated in cancer is functional in homology-directed repair of double-strand breaks. Oncogene 21: 4176-80.

2001 **Pierce AJ**, Jasin M. NHEJ deficiency and disease. Mol Cell 8: 1160-1.

2001 **Pierce AJ**, Hu P, Han M, Ellis N, Jasin M. Ku DNA end-binding protein modulates homologous repair of double-strand breaks in mammalian cells. Genes Dev 15: 3237-42.

2001 **Pierce AJ**, Stark JM, Araujo FD, Moynahan ME, Berwick M, Jasin M. Double-strand breaks and tumorigenesis. Trends Cell Biol 11: S52-9.

2001 Moynahan ME, **Pierce AJ**, Jasin M. BRCA2 is required for homology-directed repair of chromosomal breaks. Mol Cell 7: 263-72.

2001 Slupianek A, Schmutte C, Tombline G, Nieborowska-Skorska M, Hoser G, Nowicki MO, **Pierce AJ**, Fishel R, Skorski T. BCR/ABL regulates mammalian RecA homologs, resulting in drug resistance. Mol Cell 8: 795-806.

1999 **Pierce AJ**, Johnson RD, Thompson LH, Jasin M. XRCC3 promotes homology-directed repair of DNA damage in mammalian cells. Genes Dev 13: 2633-8.

1997 Longley MJ, **Pierce AJ**, Modrich P. DNA polymerase delta is required for human mismatch repair in vitro. J Biol Chem 272: 10917-21.

1993 Azizkhan JC, Jensen DE, **Pierce AJ**, Wade M. Transcription from TATA-less promoters: dihydrofolate reductase as a model. Crit Rev Eukaryot Gene Expr 3: 229-54.

1992 **Pierce AJ**, Jambou RC, Jensen DE, Azizkhan JC. A conserved DNA structural control element modulates transcription of a mammalian gene. Nucleic Acids Res 20: 6583-7.