

## ***CURRICULUM VITAE***

**Peter J. King, Ph.D.**

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### **EDUCATION:**

Ph.D., Biological Sciences, University of California, Irvine, 2000. Dissertation: "Analysis of an L-Chicoric Acid - Resistant Variant of Human Immunodeficiency Virus Type-1 (HIV-1) Integrase."

B.S., Biology, with Distinction in Biology, San Diego State University, 1994.

### **POSTDOCTORAL TRAINING:**

Molecular Pathogenesis Laboratory, Fred Quinn, Ph.D. Centers for Disease Control and Prevention, Atlanta, GA, 2000-2001.

### **ACADEMIC APPOINTMENTS:**

Instructor (Cell Biology, Microbiology), Biology Instructional Office, University of Texas, Austin, TX, 2016-Present.

Associate Professor (Tenured), Department of Biological Sciences, St. Edward's University, Austin, TX, 2009-2015.

Assistant Professor, Department of Biology, St. Edward's University, Austin, TX, 2004-2009.

Assistant Professor, Department of Biology, Stephen F. Austin State University, Nacogdoches, TX, 2001-2004.

### **PROFESSIONAL ASSOCIATIONS:**

Senior Member, Fellow, Texas Academy of Science (2004-present).

Member, American Society for Microbiology (2001-2012).

Member, International AIDS Society (2006-2010).

Member, East Texas HIV Prevention Community Planning Group (2003-2004).

### **RESEARCH EXPERIENCE:**

Immunomodulatory Phytoalexins. Peter J. King, Ph.D., Department of Biology, St. Edward's University, Austin, TX, 2009-2016 (PI).

Immunomodulatory Properties of Small Heat-shock Proteins from *Mycobacterium tuberculosis*. Peter J. King, Ph.D., Department of Biology, St. Edward's University, Austin, TX, 2007-2016 (PI).

Collaborative Research – A Novel Pedagogy. Structure/Function Analysis of Molecular Targets of Small Molecule Inhibitors. WM Keck Foundation Research and Undergraduate Programs Grant. 2007-2009 (Co-PI).

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Retroviral Integrase Structure and Function / Inhibitors of HIV Integrase. Peter J. King, Ph.D., Department of Biology, St. Edward's University, Austin, TX, 2004-2016 (PI).

Retroviral Integrase Structure and Function / Inhibitors of HIV Integrase. Peter J. King, Ph.D., Department of Biology, Stephen F. Austin State University, Nacogdoches, TX, 2001-2004 (PI).

Molecular Pathogenesis of *Mycobacterium tuberculosis*; Latency-Associated Genes of *Mycobacterium tuberculosis*. Principal Investigator: Fred D. Quinn, Ph.D., Centers for Disease Control and Prevention, Atlanta, GA, Feb, 2000-June, 2001.

HIV Integrase Structure and Function / Inhibitors of HIV Integrase. Mentor: W. Edward Robinson, Jr., M.D., Ph.D., Department of Microbiology and Molecular Genetics, University of California, Irvine, CA, 1996-1999.

SIV Pathogenesis. Mentor: W. Edward Robinson, Jr., M.D., Ph.D., Department of Microbiology and Molecular Genetics, University of California, Irvine, CA, 1995-1996.

Virulence Genes of *Staphylococcus aureus*. Mentor: Judith W. Zyskind Ph.D., Department of Biology, San Diego State University, 1992-1994.

#### **AWARDS AND HONORS:**

Award: University of California Regents' Dissertation Award, 1999.

Trainee: National Institutes of Health-NIGMS Training Grant: 5T32-GM07311, "Structure and Synthesis of Biological Macromolecules". Principal Investigator: Barbara Hamkalo, Ph.D., Dec 1995-Dec 1998.

Award: Life Sciences Industry Council, 1996.

Trainee: National Science Foundation Undergraduate Training Grant, 1992-1994.

#### **RESEARCH SUPPORT:**

NIH IRACDA Post-doctoral Training Grant. Healy, EH, **King, PJ** Sub-Awardees/Co-PI. 2013-present.

Educational Advancement Foundation. "Research Opportunities in Mathematical Biology". Healy, EH (PI), Hauser, CR (Co-PI), **King, PJ (Co-PI)**. 2009 - 2011

WM Keck Foundation Research and Undergraduate Programs Grant. "Collaborative Research, a Novel Pedagogy". Healy, EH (PI), Hauser, CR (Co-PI), **King, PJ (Co-PI)**. 2007 - 2010.

Trainee: ORISE Postdoctoral Fellowship. CDC, 2000-2001.

#### **INVENTIONS AND DISCLOSURES:**

1. "Latent Human Tuberculosis Model, Diagnostic Antigens, and Methods of Use." F.D. Quinn, R. Karls, and **P.J. King**, Inventors. Patent 7, 105, 170. June 2006.

#### **PAPERS PUBLISHED:**

Peter J. King, Ph.D.

1. Healy, E.F., Little, C., **King, P.J.** A Model for Small Heat Shock Protein Inhibition of Polyglutamine Aggregation. *Cell Biochem Biophys*. 2013. DOI:10.1007/s12013-013-9795-1
2. Healy, E.F., **King P.J.** A Mechanism of Action for Small Heat Shock Proteins. *Biochem Bioph Res Co*. 2011. **417**:268-73.
3. Healy, E.F., Johnson, S., Hauser, C.R., **King, P.J.** Tyrosine kinase inhibition: Ligand binding and conformational change in C-Kit and C-Abl. *FEBS Let*. 2009. 583:2899-906.
4. Healy, E.F., Sanders, J., **King, P.J.**, Robinson, W.E. Jr. A docking study of L-chicoric acid with HIV-1 integrase. *J Mol Graphics Modell*. 2009. 27:584-9.
5. Tamura H., Akioka T., Ueno K., Chujyo T., Okazaki K., **King P.J.**, Robinson W.E. Jr. Anti-human immunodeficiency virus activity of 3,4,5-tricaffeoylquinic acid in cultured cells of lettuce leaves. *Mol Nutr Food Res*. 2006. **50**:396-400.
6. Reinke R.A., Lee D.J., McDougall B.R., **King P.J.**, Victoria J., Mao Y., Lei X., Reinecke M.G., Robinson W.E. Jr. L-chicoric acid inhibits human immunodeficiency virus type 1 integration in vivo and is a noncompetitive but reversible inhibitor of HIV-1 integrase in vitro. *Virology*. 2004. **326**:203-19.
7. **King P.J.**, Lee D.J., Reinke R.A., Victoria J.G., Beale K., Robinson W.E. Jr. Human immunodeficiency virus type-1 integrase containing a glycine to serine mutation at position 140 is attenuated for catalysis and resistant to integrase inhibitors. *Virology*. 2003. **306**:147-61.
8. Quinn, F., Birkness, K.A., and **King, P.J.** Alpha\_crystallin as a potential marker of *Mycobacterium tuberculosis* latency. *ASM News*. 2002. **68**:612-17.
9. Reinke R.A., **King P.J.**, Victoria J.G., McDougall B.R., Ma G., Mao Y., Reinecke M.G., Robinson W.E. Jr. Dicafeoyltartaric acid analogues inhibit human immunodeficiency virus type 1 (HIV-1) integrase and HIV1 replication at nontoxic concentrations. *J Med Chem*. 2002. **45**:3669-83.
10. **King, P.J.**, Ma, G.X., Miao, W., Jia, Q., McDougall, B.R., Reinecke, M.G., Cornell, C., Kuan, J., Kim, T., and Robinson, W.E., Jr. Structure-Activity Relationships: Analogues of the dicafeoylquinic and dicafeoyltartaric acids as potent inhibitors of human immunodeficiency virus type 1 (HIV-1) integrase and HIV-1 replication. *J. Med. Chem*. 1999. **42**:497 -509.
11. **King, P.J.** and Robinson, W.E., Jr. Resistance to the anti-human immunodeficiency virus type 1 (HIV-1) compound, L-chicoric acid results from a single mutation at amino acid 140 of integrase. *J. Virology*. 1998. **72**:8420-24.
12. McDougall, B.R., **King, P.J.**, Wu, B.W., Hostomsky, Z. Reinecke, M.G., and Robinson, W.E., Jr. Dicafeoylquinic and dicafeoyltartaric acids are selective inhibitors of human immunodeficiency virus type 1 integrase. *Antimicrob. Agents Chemother*. 1998. **42**:140-6.
13. **King, P.J.**, McDougall, B.R., Tenner, A.J., and Robinson, W.E., Jr. Amino acids 603-622 of simian immunodeficiency virus transmembrane glycoprotein bind complement component C1q leading to deposition of complement component C3 and increased infectivity of cell lines expressing CD4 and CR2. *Pathogenesis*. 1997. **1**:43-56.

#### SELECTED ABSTRACTS:

1. Healy, Eamonn F., Saunderson, J.D., Johnson, S., Hauser, C.R., Jamil, A.J., **King, P.J.**, and Robinson, W.E. HIV Integrase and c-Kit: Ligand Design and Drug Resistance. Keystone Symposium on Computer-Aided Drug Design, Steamboat Springs, CO, March 2008.
2. Dominguez, J.D., Mazour, M., Palacios, M., Taylor-Presse, K., and **King, P.J.** Nuclear Import of Human Immunodeficiency Virus Type-1 (HIV-1) Integrase in *Saccharomyces cerevisiae*. Texas Academy of Science (TAS) Annual Meeting, Corpus Christi, TX. March 2008.
3. Dominguez, J.D., Mazour, M., Palacios, M., Taylor-Presse, K., and **King, P.J.** Nuclear Import of Human Immunodeficiency Virus Type-1 (HIV-1) Integrase in *Saccharomyces cerevisiae*. Biomedical Research Conference for Minority Students (ABRCMS) Annual Meeting, Austin, TX. November, 2007.
4. Dougherty, J., Cowser, B., Meier, A., and **King, P.J.** Nuclear Import of Human Immunodeficiency Virus Type-1 (HIV-1) Integrase in *Saccharomyces cerevisiae*. Texas Academy of Science (TAS) Annual Meeting, Waco, TX. March 2007.

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5. Whitney, M, Mazour, M. Sanders, K., and **King, P.J.** The Role of Cellular Factors on the Activity of Human Immunodeficiency Virus Type-1 (HIV-1) Integrase in *Saccharomyces cerevisiae*. Texas Academy of Science (TAS) Annual Meeting, Waco, TX March 2007.
6. Martin, L.E., Whitney, M., and **King P.J.** Investigation of the Nuclear Import Pathway of Human Immunodeficiency Virus Type 1 (HIV-1) Integrase. Texas Academy of Science Annual Meeting, Beaumont, TX. March 2006.
7. Birkness, K.A., Guarner, J., Deslauriers M., **King P.J.**, and Quinn, F.D. An In Vitro Model to Study Cellular Interactions During Granuloma Formation in Mycobacterium tuberculosis Infection. American Society for Microbiology, New York, NY July, 2000 . (Poster Presentation).
8. **King, P.J.**, Ma, G.X., Miao, Q., McDougall, B.R., Reinecke, M.F., and Robinson, W.E., Jr. Structure Activity Relationships and Inhibition of HIV Integrase. 1999 Palm Springs Symposium on HIV-1/AIDS, Palm Springs, CA March, 1999. (Oral Presentation - WER).
9. **King, P.J.**, and Robinson, W.E., Jr. Biochemical Analyses of an L-Chicoric Acid - Resistant HIV Integrase. 1999 Palm Springs Symposium on HIV-1/AIDS, Palm Springs, CA March, 1999. (Poster Presentation).
10. Beale, K.K., McDougall, B., **King, P.J.**, and Robinson, W.E., Jr. In Vitro Sensitivity of Drug-Resistant HIV1 to Inhibitors of Reverse Transcriptase, Protease, and Integrase. 1998 Palm Springs Symposium on HIV1/AIDS, Palm Springs, CA March, 1998. (Poster Presentation).
11. **King, P.J.**, McDougall, B.R., Kuan, J., Kim, T., and Robinson, W.E., Jr. A Single Nucleotide Mutation within HIV-1 Integrase is Sufficient for Resistance to L-Chicoric Acid, a Selective Inhibitor of HIV-1 Replication. 1998 Palm Springs Symposium on HIV-1/AIDS, Palm Springs, CA March, 1998. (Oral Presentation).
12. Robinson, W.E., Jr, McDougall, B.R. and **King, P.J.** Integrase as a Potential Target for Multidrug Therapy of HIV-1 Infection. Foundations of HIV-1 Therapy, 1997 Palm Springs Symposium on HIV-1/AIDS, Palm Springs, CA March, 1997. (Poster Presentation).
13. **King, P.J.** and Robinson, W.E., Jr. Cloning and Sequencing of Integrase Inhibitor - Resistant Variants of HIV-1<sub>NL4-3</sub>. Foundations of HIV-1 Therapy, 1997 Palm Springs Symposium on HIV-1/AIDS, Palm Springs, CA March, 1997. (Oral Presentation).
14. **King, P.J.**, McDougall, B., and Robinson, W.E., Jr. Complement-Mediated, Antibody-Dependent Enhancement of SIV<sub>mac239</sub> Infection *In Vitro*. XI Intl. Conf. on AIDS. Vancouver, CA, July, 1996. (Poster Presentation).
15. Robinson, W.E., Jr., **King, P.J.**, and Tenner, A.J. Antibody-Complement Interactions with SIV Deletion Mutants. 13th Annual AIDS Investigators Meeting, Universitywide AIDS Research Program, San Francisco, CA, March 1996. (Poster Presentation).