

**Robert A. Kirken, Ph.D.**  
**DEAN, COLLEGE OF SCIENCE &**  
**PROFESSOR, DEPARTMENT OF**  
**BIOLOGICAL SCIENCES**

1132 Calle Del Sur  
El Paso, TX 79912  
Cell: 713-444-7821  
[rakirken@gmail.com](mailto:rakirken@gmail.com)  
[science.utep.edu/biology](http://science.utep.edu/biology)

**THE UNIVERSITY OF TEXAS AT EL PASO**

---

---

**Education**

---

**Undergraduate**

1982-1986 B.A. with honors, *cum laude*, (Chemistry); Olivet College, Olivet, MI

**Graduate**

1986-1991 Ph.D. (Biomedical Sciences); Wright State University, Dayton, OH

**Postgraduate Training**

1992-1996 National Institutes of Health/National Cancer Institute (NIH/NCI)  
Cytokine Molecular Mechanisms Section, Frederick, MD  
Postdoctoral Fellow, Intramural Research Training Assistantship (IRTA)  
Sponsor: William L. Farrar, Ph.D., Head

**Current Administrative Experience**

---

**Dean, College of Science, The University of Texas at El Paso**

**Duties:**

- Oversee and direct operations and planning for the College of Science that includes the Departments of Biological Sciences, Chemistry, Geological Sciences, Mathematical Sciences, and Physics, along with programs in Bioinformatics and Computational Science consisting of 120+ tenured or tenure-track faculty, 50+ lecturers, and 150+ staff.
  - Responsibility and strategic oversight for an annual operating base budget of \$20 million and \$20+ million in annual research expenditures.
  - Oversee administration of graduate and undergraduate degree programs hosted by the College, including 1 B.A. degree, 31 B.S. degrees, 22 Fast Track programs, one Undergraduate Certificate, 11 M.S. degrees and 6 Ph.D. degrees. For descriptions of each of these degrees, please see <http://www.science.utep.edu/index.php/degree-plan>.
  - As a service College help meet the core requirement needs of more than 25,000 students.
  - Oversee College facilities, including 5 buildings dedicated for teaching and research needs that house state-of-the-art vivarium and BSL-3 facilities as well as cutting-edge technology in NMR/spectroscopy, imaging, and diverse capabilities for the assessment and analysis of a vast array of materials.
  - Collaborate with a team of Associate Deans to support and evaluate research efforts and initiatives, promote student engagement, success and career preparation, curriculum development/revision and implementation, and faculty mentoring and development.
- 
-

- Engage with the College of Science Advisory Board comprised of alums that consist of regional and national leaders of academia, industry, and government sectors to support our philanthropic efforts to enhance student opportunities and program initiatives.
- Oversee and lead the Pre-Health Professions Program that advises all students on campus who plan to apply to medical, pharmacy, dental, veterinary and other professional and medical programs.

***Accomplishments:***

- Increased the number of majors in the College over multiple consecutive years; we now serve more than 3200 undergraduate majors (+31%) and 400 graduate students (+18%).
- Increased awarded degree with UG (+33%) Grad (+22%) now exceeding 500 students per year for an increase of 31% overall.
- As a service college increased SCH to all-time record highs of greater than 130,000 or 20% increase over a six year period.
- Shortened time to graduation for undergraduates in the College to less than 5 years.
- Built a student success advising center that streamlined on-line registration, student tracking, and information release which lead to outcomes over a two-year period to reduces students on probation and suspension by 166%.
- Expanded research infrastructure and capacity as Principal Investigator and architect of the NIH-sponsored Border Biomedical Research Center funded at >\$19 million through 2024.
- Increased overall College annual research funding expenditures of more than \$20 million representing a greater than 50% increase since 2014.
- Cultivated new and existing donor support, sought and promoted development activities, fostered alumni relations, created and implemented new strategies for outreach including the first College e-newsletter and the use of social media and other technologies.
- Developed an active and highly engaged external advisory board to assist with fund raising and promoting our vision helping the college to exceed \$10m during my tenure that includes individual million-dollar donors.
- Implemented strategic planning and goal setting initiatives for the College to build faculty consensus, develop and commercialize intellectual property, and expand fund raising opportunities.
- Synthesized and streamlined College policies, procedures and best operating practices.
- Successfully guided the College through accreditation (Southern Association of Colleges and Schools Commission on Colleges) for 2016.
- Built a Business Center to handle the many transactions, appointments and budgets for the College and initiate training workshops for staff.
- According to Diverse Magazine, we now rank 3<sup>rd</sup> in the United States in the number of bachelor's degrees awarded to Hispanics in Biological and Biomedical Sciences, 3<sup>rd</sup> in the Physical Sciences and 1<sup>st</sup> in awarding Master's degrees in Math and Statistics.
- COVID-19 Response-developed a college wide strategy to support course development for remote learning, deliver on line laboratory courses, assisted faculty with tenure and promotion options, developed a CLIA certified COVID-19 testing program for UTEP faculty, staff and students that resulted in nearly 70,000 tests performed over 10 months. c

### ***Academic Planning and Student Success Initiatives***

- Developed diverse and innovative new programs and research opportunities for students.
- Created the College Office for Readiness and Engagement to support the explosive growth within the College and provide mentoring and professional development for students along with curricular advising.
- Created Town hall meetings where all colleges are invited to provide graduate degree options to College of Science majors
- Restructured the Medical Professions Institute, developed a post-baccalaureate pre-medical certificate, and created a strong external advisory board of stakeholders to assist in oversight. Expanded health professions programs and advising in conjunction with the Schools of Nursing and Pharmacy to facilitate student success.
- Creating a new center to support student internships, off-campus research opportunities, and other activities for professional development.
- Developed new program offerings to increase University opportunities for students:
  - B.S. Ecology and Evolutionary Biology degree
  - B.S. in Neuroscience shared with College of Liberal Arts
  - Professional Master's Degree that employs certificates from all colleges
  - Ph.D. in Data Science

### **Previous Administrative Experience**

---

#### **Department Chair, Biological Sciences, The University of Texas at El Paso**

##### ***Duties:***

- Oversee operations and planning for the Biological Sciences Department that is home to a large number of students and faculty with diverse interests. The complex environment of this department involved strategic planning to meet the need for courses and laboratory sections while maintaining high-end research labs and equipment and supporting faculty engaged in research ranging from molecular immunology to climate change.
- Responsibility and oversight for an annual operating budget of \$3.5 million and an additional \$10 million in annual research expenditures. The Department's budget accounts for 60% of the overall College of Science budget at the University.
- Provide leadership, mentorship and supervision for departmental faculty, comprised of 32 professors with an additional 12 faculty on research or lecture tracks, as well as the entire 100+ departmental employees. Hired one-third of these faculty members while Chair.
- Oversee administration of Biological Sciences graduate and undergraduate degrees, to include 3 B.S., 2 Ph.D., and 1 M.S. degree. The Department serves nearly 1,500 majors and in a typical semester enrolls approximately 3,500 students in about 50 courses.
- Oversee Department facilities, to include some 148,000 sq. ft. of teaching and research spaces that span multiple buildings, a vivarium, and a BSL-3 laboratory. Laboratories contain state-of-the-art equipment for both research and teaching, and the instructional program makes extensive use of facilities available only for research at most comparably-sized or larger universities.
- Helped to oversee and develop the new Biosciences Research Building (2009) which now houses the majority of the department and BBRC core facilities.
- Supervise and administer multiple National Science Foundation (NSF) and National Institutes of Health (NIH) training grants for the Department.

### ***Accomplishments***

- Increased number of biology majors almost three-fold to ~1500 students.
- Increased number of graduate students at the M.S. and Ph.D. level to almost 100.
- Program Director and architect of the NIH-sponsored Border Biomedical Research Center; funded at nearly \$13 million over 5 years.
- Instrumental in design, implementation, and oversight of new 140,000 sq. ft. Bioscience Research Building and renovation of our 100,000 sq. ft. Biology Building.
- Department consistently generated greater than \$10 m in annual research expenditures.

### ***Academic Planning***

- Developed new program offerings to increase University opportunities for students:
  - Biological Sciences degrees at the B.S., M.S. and Ph.D. level
  - B.A. in Biological Sciences (revised and updated);
  - B.S. in Cellular and Molecular Biochemistry;
  - B.S. in Neuroscience (currently proposed); and
  - Ph.D. in Ecology and Evolutionary Biology.
- Encourage student and faculty participation in unique local research opportunities. The University's location in the northern part of the Chihuahuan Desert and the Rio Grande Valley provides a fascinating setting for learning in habitats ranging from desert to alpine mountain ranges. The El Paso-Ciudad Juárez metroplex has a population of nearly 2 million people, presenting environmental challenges and public health problems characteristic of both industrialized and developing societies. The majority of research programs in the Department are focused on biomedical and environmental problems of the region.

### ***Student Success Initiatives***

- Strong recruiting and retention of Hispanic students; currently ranked 2<sup>nd</sup> in the Nation in graduating Hispanic Biology majors.
- Facilitated effective advising and reduced time to degree.
- Enhanced undergraduate research opportunities.

### ***Academic Appointments***

---

2013-present **Dean College of Science**  
University of Texas at El Paso  
Chemistry Computer Science Building Suite 3.0218  
500 W. University Ave.  
El Paso, TX 79968

2005-2013 **Professor and Chair**  
University of Texas at El Paso  
Department of Biological Sciences  
500 W. University Ave., Biosciences Bldg. 2.120

El Paso, TX 79968

- 2004-2005    **Associate Professor**  
University of Texas at Houston Medical School  
Department of Integrative Biology and Pharmacology  
6431 Fannin St., MSB 4.218  
Houston, TX 77030
- 2005-2007    **Visiting Professor**  
University of Texas at Houston Medical School  
Department of Integrative Biology and Pharmacology  
6431 Fannin St., MSB  
Houston, TX 77030
- 2002-2005    **Adjunct Asst. Professor**  
University of Texas: M.D. Anderson Cancer Center  
Department of Bio-immunotherapy  
1515 Holcombe Blvd.  
Houston, TX 77030
- 2001-2005    **Adjunct Professor**  
UT-Houston Medical School  
Department of Surgery-Organ Transplantation  
6431 Fannin St., MSB 6.240  
Houston, TX 77030
- 1998-2005    **Assistant Professor**  
University of Texas at Houston Medical School  
Department of Integrative Biology and Pharmacology  
6431 Fannin St., MSB 4.218  
Houston, TX 77030
- 1996-1998    **Staff Scientist**  
Intramural Research Support Program, (IRSP), Science Applications International Corporation (SAIC) Scientist, National Cancer Institute (NCI), Frederick Cancer Research and Development Center (FCRDC), Frederick, MD 21702

## **Professional Organizations / Committees**

---

### **National**

- 1987-1991    Biophysical Society Member  
1995-present    International Cytokine Society  
1998-present    American Association of Immunologists  
1999-2005    Transplantation Society  
2000-2005    American Society of Transplant Surgeons

## Patents

---

- Provisional patent (Filed 2002)  
University of Texas-Houston: Novel Jak3 inhibitor with immunosuppressive potential.  
Registration No. 38,561, Docket No. 2105-00400.
- Submitted and amended Full Patent “Methods for Selectively Inhibiting Janus tyrosine kinase 3 (Jak3) December 10, 2003. Inventors, Drs. Kirken, Kahan, Stepkowski and Priebe-UTH.
- Patent Issued: US 7,365,096. Methods for selectively inhibiting Janus tyrosine kinase 3 (Jak3) 2008
- 2009 Filed Provisional Patent U.S. Patent Application  
Title: Biosensor to Detect Infectious Agents  
Serial No.: 12/573,100  
Filing Date: October 3, 2009  
Our File No.: UTEP: 1001  
Inventors: Drs. Kirken, Wicker, Gosselink and MacDonald.
- 2010 Filed to convert to full Patent U.S. Patent Application  
Title: Biosensor to Detect Infectious Agents  
Serial No.: 12/573,100  
Filing Date: October 3, 2009  
Our File No.: UTEP: 1001  
Inventors: Drs. Kirken, Wicker, Gosselink and MacDonald.
- CTLA-4 blockade with metronomic chemotherapy for the treatment of breast cancer Licensed -  
Active Prosecution 4/2/2014 61/973,908 Provisional United States 4/2/2014
- CTLA-4 blockade with metronomic chemotherapy for the treatment of breast cancer Licensed -  
Active Prosecution 4/2/2014 14/676,855 U.S. Non-Provisional United States  
4/2/2015
- CTLA-4 blockade with metronomic chemotherapy for the treatment of breast cancer Licensed -  
Active Prosecution 4/2/2014 PCT/US2015/02396 Initial PCT Not Applicable (PCT  
App) 4/2/2015
- CTLA-4 blockade with metronomic chemotherapy for the treatment of breast cancer Licensed -  
Active Prosecution 4/2/2014 2015/028,3237 U.S. Non-Provisional United States  
4/2/2015
- Anti-CTLA4 Blockade Licensed 4/27/2015 62/161,116 Provisional United States  
5/13/2015

### *Database Entries from Research*

1998 Genebank accession number: AF041336

- 1999 Protein Research Foundation accession number: 2503639d
- 2004 PhosphositePlus and **UniProtKB/Swiss-Prot entry** for Stat6 Serine 756 and Threonine 645
- 2008 PhosphositePlus and **UniProtKB/Swiss-Prot entry** for human Prohibitin 2 at Serine 243 and Tyrosine 248
- 2008 PhosphositePlus and **UniProtKB/Swiss-Prot entry** for human Jak3 at tyrosine 904 and 939

## **Honors and Awards**

---

- 1982 - 1986 Presidential Scholar Award: Academic Excellence, Olivet College
- 1984 - 1986 Student Senate Representative, Olivet College
- 1985 American Chemical Society President, Olivet College Chapter
- 1986 Commencement Ceremony Speaker, Olivet College
- 1986 American Institute of Chemists Student Research Award, Olivet College
- 1987 Sigma Xi Graduate Student Research Lecture Award, Wright State University
- 1992 - 1996 Intramural Research Training Assistantship Award (IRTA), National Institutes of Health (NIH)
- 1999 Young Investigator Travel Award: American Soc. Transplant Surgeons
- 2003 - 2004 Promoted to Associate Professor
- 2003-2004 UT Houston Health Science Center Dean's Teaching Excellence Award
- 2005 Promoted to Full Professor within UT System
- 2006 - 2007 UTEP Office of Research and Sponsored Programs Award for Outstanding Performance in Securing Extramural Funding
- 2007 - 2008 UTEP Office of Research and Sponsored Programs Award for Outstanding Performance in Securing Extramural Funding
- 2008 - 2009 UTEP Office of Research and Sponsored Project Award for Outstanding Leadership and Mentoring Faculty
- 2009 - 2010 UTEP Office of Research and Sponsored Projects Award for Outstanding Performance in Securing Extramural Funding and Faculty Mentoring
- 2010 - 2011 UTEP Office of Research and Sponsored Projects Award for Outstanding Performance in Securing Extramural Funding
- 2011 UTEP College of Science Faculty Marshal
- 2012 UTEP Office of Research and Sponsored Projects Award for Outstanding Performance
- 2013 UTEP Office of Research and Sponsored Projects for Outstanding Performance in Securing Extramural Funding
- 2012-19 UTEP Office of Research and Sponsored Projects: One Million Dollar Research Club for outstanding competitive research accomplishment of greater than \$1m annually

## **Grant Reviewer Positions**

---

- 2004 - 2006 Gulf coast GI Pilot Grant Award Project at UTHSC
- 2004 - 2005 New Investigator Grant Program at UTHSC



- 2004 - 2005 Mentor of Huan Lu UT-Dental Branch NIH grant entitled “Opalescence of Dental Resin Composite”.
- 2004 - 2005 Co-Mentor Hesham Amin MD Anderson Cancer Center– NIH KO-8 Training Grant.
- 2005 NIH-NIDDK
- 2007 NIH NIDDK
- 2008 Association for International Cancer Research2009 FWF Austrian Science Fund
- 2009 Association for International Cancer Research2009
- 2010 Texas Tech University Research Grants
- 2011 FWF Austrian Science Fund
- 2011 RCMI Research Translational NIH pilot grants
- 2012 RCMI Research Translational NIH pilot grants
- 2013-present Various domestic and international agencies
- 2017-present External Advisory Committee Member Research Center Minority Institution NIH Grant MeHarry School of Medicine
- 2018-present External Advisory Committee Member Research Center Minority Institution NIH Grant University of Puerto Rico Medical Sciences Program

## **Editorial Positions**

---

2000-2003 Assistant Editor, *News in Physiological Sciences* (NIPS)

Adhoc Reviewer:

*Circulation Journal*

*Current Cancer Drug Targets*

*Cytokine*

*European Cytokine Network*

*Journal of Biological Chemistry*

*Journal of Immunology*

*Journal of Leukocyte Biology*

*Molecular Endocrinology*

*Transplantation*

*Clinical Experimental Immunology*

*Transplantation Proceedings*

*News in Physiological Sciences (NIPS)*

*Oncogene*

*Springer Publishing, Biosciences Microbiology and Immunology*

*Canadian Journal of Chemistry*

*Leukemia Research*



*American Journal of Pathology*  
*Expert Review of Clinical Immunology*  
*FEBS Letters*  
*Clinical and Experimental Immunology*  
*Toxins*  
*PLOS One*  
*Biochemical Journal*  
*More than 15 additional journals*

### **Service on the University of Texas-Houston Health Science Center Committees**

---

- 1999-2000 Strategic Planning for the Research Enterprise; headed by Dean Buja.  
Selected by the Dean of the Medical School to develop a strategic plan for moving  
The college forward in research and medical education
- 2001-2002 UT-Dental Branch Pharmacology Faculty Search Committee Member.  
Assisted in hiring outstanding faculty to promote the mission of the dental school
- 2001-2003 Member of Institutional Research Council Committee headed by George Stancel.  
Developed new strategies to move research forward within the greater Houston area
- 2003-2004 Member of New Investigator Grant Development Steering Committee  
Developed new mechanisms to mentor and promote successful Grantsmanship for  
junior faculty
- 2004-2005 New Investigator Grant Development Program Committee member and Mentor  
headed by P.J. Davies  
Provided oversight and mentoring of new faculty to increase grant success rates
- 2004-2005 Member of the Gulf Coast Consortium for Chemical Genomics Oversight Committee  
Provided leadership and oversight on developing chemical libraries and assays
- 2004-2005 Member of Intellectual Property Committee  
Evaluated intellectual property developed by the university
- 2004-2005 New Investigator Grant Development Program Committee member and Mentor  
headed by P.J. Davies  
Provided oversight and mentoring of new faculty to increase grant success rates
- 2004-2005 Member of the Gulf Coast Consortium for Chemical Genomics Oversight Committee  
Provided leadership and oversight on developing chemical libraries and assays
- 2004-2005 Member of Intellectual Property Committee  
Evaluated intellectual property developed by the university

### **Service on the University of Texas-Houston Medical School Committees**

---

- 1999-2002 Faculty Senate
- 1999-2005 Member of the Cell and Regulatory Biology Steering Committee (CRB)
- 1999-2005 Cell and Regulatory Biology (CRB) Graduate Student Search
- 1998-2001 Department of Integrative Biology and Pharmacology Faculty Search

- 1999-2001 Department of Integrative Biology and Pharmacology Graduate Education Committee
- 1999-2002 Chair and Co-chair of Department of Integrative Biology and Pharmacology Seminar Series
- 2001 Faculty Interviewer for Medical School Applicants
- 2001-2002 Five Year Department of Integrative Biology and Pharmacology Review-Training Committee
- 2002-2003 Renal Transplant Candidate Search and Interview headed by Dr. Bruce Kone
- 2003-2004 Dean's Excellence Teaching Award

### **Service on Local and National Committees**

---

- 2006-2007 Reviewer for the National Institutes of Health-NIDDK
- 2008-present RCMI-Translational Network Core Lab Subcommittee Chair  
Provide leadership to research cores that span 18 minority institutions
- 2009-present Supported the Regional Economic Development Corporation group, El Paso  
Supported efforts to entice and recruit companies to the El Paso region
- 2009-present Director of the Core Research Laboratories for 18 Research Centers at Minority Institutions belonging to the Research Translational Network
- 2011 Steering Committee Member Appointed by University of Texas System Chancellor Dr. Francisco Cigarroa for 2010 UT System Technology Commercialization Symposium January 17 & 18, 2011. Developed new strategies to enhance intellectual property development and commercialization of UT System inventions
- 2011-present RTRN Steering Committee Vice Chair Elect

### **Service on University of Texas Health Science Center (UTHSC) Graduate School Committees and Awards**

---

- 1999-2005 Graduate School and Biomedical Sciences Student Recruitment
- 1999-2004 Graduate School and Biomedical Sciences Admission Committee
- 2003-2004 CHAIR, Graduate School and Biomedical Sciences Admission Committee
- 2003 GSBS Dean's Excellence Award Recipient
- 2004 Attended GSBS Graduation
- 2005 Member of Internal Reviewer of the Genes & Development Program within GSBS
- 2005 Chaired GSBS Exam Committee for Rebecca Corrigan
- 2005 Member of GSBS-UTHSC Pharmacoinformatics Training Grant Committee
- 2007-2008 Graduate School and Biomedical Sciences Student Recruitment

### **Directed Graduate School Rotational Students**

---

1998	Qi Shen	2012	Alejandro Bugarini
1999	Fariba Behbod	2012	Alejandra Saenz
2000	Josh Vincentz	2012	Damaris Rosado
2002	Jeremy Ross	2012	George Martinez
2002	Morgan McKeller	2012	Blanca Ruiz
2003	Hanyin Cheng	2012	Mayra Canales
2003	Brett Ewald	2012	Cristina Arenaz
2004	Nancy Seibert	2012	Derrick Oaxaca
2004	Georgialina Rodriguez	2013-present	more than 5
2005	Famourou Kourouma		
2005	Abhishek Mitra		
2007	Laura Torres		
2009	Mathew Gaynor		
2009	Jason Meyer		
2010	Blanca Ruiz		
2011	G. Steven Martinez		

### **Graduate Student Thesis and Exam Committee Member**

1998-2003	Served on Ph.D. thesis and Exam committee for Qi Shen in Department of Integrative Biology and Pharmacology; successfully defended 2003
1998-2001	Served as thesis advisor for Fariba Behbod in the Department of Integrative Biology and Pharmacology; successfully defended 2001.
1999-2000	Served on Ph.D. thesis committee for Cheryl Komanduri in Department of Neurology
1999-2001	Served on Ph.D. thesis committee for Barton W. Trawick in Department of Surgery-Organ Transplantation; successfully defended 2001
1999-2001	Served on Ph.D. thesis committee for Christopher Carlson in Department of Integrative Biology and Pharmacology; successfully defended 2001
1999-2001	Served on Ph.D. thesis committee for Ginny Graham in Department of Integrative Biology and Pharmacology; successfully defended 2002
2000-2004	Served on Ph.D. thesis committee for John Langowski in M.D. Anderson Cancer Center
2000-2002	Served on M.Sci. thesis committee for Alan Zarrinnesan in Department of Integrative Biology and Pharmacology; successfully defended 2002
2000-2001	Served on Ph.D. thesis committee for Jennifer Carter in M.D. Anderson Cancer Center
2001-2003	Served on M.Sci. thesis committee for Roger Belizaire in Department of Neurology; successfully defended 2003
2001-2004	Served on Ph.D. thesis and exam committee for Zhiyong Ren in M.D. Anderson Cancer Center
2002-2004	Served on Ph.D. thesis committee for Morgan McKeller in M.D. Anderson Cancer Center
2002-2005	Served on Ph.D. thesis committee for Janci Chunn in Department of

	Biochemistry, University of Texas-Houston Medical School
2002-2004	Served on Ph.D. thesis committee for Melissa Adams in Department of Biochemistry, University of Texas-Houston Medical School
2002-2005	Served on Ph.D. thesis committee for Xiaochong Wu in Department of Integrative Biology and Pharmacology, University of Texas-Houston Medical School
2003-2005	Served on Ph.D. thesis committee for Ben Mull, M.D. Anderson Cancer Center
2003-2007	Served as Ph.D. advisor for Hanyin Cheng in Department of Integrative Biology and Pharmacology, University of Texas-Houston Medical School
2003-2007	Served as Ph.D. advisor for Jeremy Ross in Department of Integrative Biology and Pharmacology, University of Texas-Houston Medical School
2004-2005	Served on Ph.D. thesis committee for Rebecca Corrigan, Department of Biochemistry and Molecular Biology
2004-2009	Served as Ph.D. advisor for Georgialina Rodriguez in Department of Integrative Biology and Pharmacology, University of Texas-Houston Medical School
2004	Chaired Candidacy Exam for Rebecca Corrigan
2004-2005	Served as M.Sci thesis committee member for Brett Ewald, M.D Anderson Cancer Center
2004-2005	Served on Ph.D. thesis committee of Cherie Roche, Department of Pathology, University of Texas-Houston Medical School
2005	Served on Ph.D. thesis committee for Adrienne McCampbell, Department of Integrative Biology and Pharmacology, University of Texas-Houston Medical School
2005	Served on Ph.D. thesis committee for Svitlana Kurinna, Institute of Molecular Medicine
2006-2008	Served on Ph.D. thesis committee for Zaineb Al-Dahwi, UTEP
2006	Served on Ph.D. thesis committee for Patricia Garrido, UTEP
2005-2007	Served on Ph.D. thesis committee for Juan Hernandez, UTEP
2007-2008	Served as thesis committee member for Laura Torres, UTEP Biological Sciences
2009-2010	Serve as PhD thesis committee member for Johanny Meneses, UTEP Biological Sciences
2010-2015	Served as Ph.D. thesis committee mem. for Chuck Gilbert, UTEP Biological Sciences
2010-2012	Served as mentor for Damaris Rosado who graduated with MS in 2012

## **Student Sponsorships**

---

### **Graduated Ph.D. Students as Major Professor**

2001	Fariba Behbod
2003	Zsuzsana Nagy
2007	Hanyin Cheng
2007	Jeremy Ross
2009	Georgialina Rodriguez
2010	Abhisek Mitra
2014	Blanca Ruiz
2015	G. Steven Martinez

2017 Elisa Robles  
2020 Alice Hernandez  
2020 Yoshira Ayala

### **Graduated M.S. Candidates**

2012 Damaris Rosado  
2014 Derrick Oaxaca  
2015 Stephanie Moreno

### **Undergraduate Students**

1998 Ardavan Behbod  
1999 Ana Petkovska  
2000 Cindy Herrick  
2002 Qian Wu  
2006 Gabriela Federico, Valentina Montoya  
2007 Jessica Hernandez,  
2007 Omar Khateeb  
2007-2007 Damaris Rosado  
2005-2007 Elizabeth Salazar,  
2007 Blanca Soria  
2009 Hadit Morales  
2009 Juan Bacerra  
2009 Justine Murray  
2009 John Wilson  
2010 Gloria Herrera  
2010 Jennifer Stalter  
2010 Rafael Torres  
2010 Adriana Saldivar  
2011 Derrick Oaxaca  
2011-Current More than 15 students

### **Postdoctoral Fellows**

2001-2004 Yuling Wang  
2003-2010 Zsuzsanna Nagy  
2007-2014 Jeremy Ross  
2009-2015 Georgialina Rodriguez  
2014-2018 Blanca Ruiz  
2015-2016 G. S . Martinez  
2014-2020 Armando Estrada  
2017-present Elisa Robles  
2020-present Alice Hernandez  
2021-present Y. Ayala-Mar

## Technicians

1997-2000	Rebecca A. Erwin-Cohen
2001-2005	Judy Kao
2006	Cynthia Perez
2007-2008	Christina Gutierrez
2009-2010	Stephen Martinez
2012-2013	Elsa Warden
2013-present	Five revolving technicians

## Teaching Responsibilities

---

1998	Seminars in Regulatory Biology, GS040751, (6 hrs.)
1999-2005	Mechanisms of Hormone Action, GS130024, (6 hrs.)
1999	Topics in Molecular Medicine, GS2106111100, (1 month)
1999-2005	Cell Biology Course number GS040013100, (4 hrs.)
1999-2005	Medical Pharmacology Course-Section IV, Toxicology II, (1 hr.)
2000-2005	Medical Pharmacology Course-Section III, Antimicrobial Chemo., (2 hrs.)
1999-2005	Summer Students Research Program Lecturer
2006-2013	Senior Seminar course Biol 4192
2008-2013	Lectures in Structure and Function of Macromolecules Biol 5340
2008-2013	Lectures in Advanced Immunological Concepts Biol 5326 MS and Doctoral Thesis and dissertation course/lab research

## Current Grant Support

---

1. National Institute of Minority Health and Health Disparities-Research Center at Minority Institutions and Borders Biomedical Research Center. NIH (PI R.A. Kirken). U54 MD007592. Award Begin Date/End Date 03/1/2019 to 02/28/2024. Amount \$19.2m
2. National Institute of Minority Health and Health Disparities-Research Center at Minority Institutions. NIH RADx-UP (PI R.A. Kirken). U54 MD007592. Award Begin Date/End Date 11/12/2020 to 02/28/2024. Amount \$1.04m.
3. National Cancer Institute. UTEP Biorepository as a tissue source site for CPTAC. (PI R.A. Kirken). NIH. Leidos Innovations. Award Begin Date/Award End Date: 08/31/2019 to 08/30/2024. Amount and Recharge \$36,317
4. Cancer Prevention Institute of Texas. Rapid Point-of-Care Detection of Ovarian Cancer Biomarkers Using a Common Thermometer for Low-Resource Settings (PI X. LI and co-PI R. A. Kirken. Award Begin Date/End Date 11/1/2021-10/30/23. Amount \$249,999

## Past Grant Support

---

5. “Effects of Prodigiosin on JAK3”, P.I: B.D. Kahan, Co-P.I.: Kirken, R.A., Pharmacia & Upjohn. 07/01/99-06/30/00, \$25,000.
6. “Stat6 as a target to treat airway hyperresponsiveness”, P.I.: R.A. Kirken, American Lung Association, 07/01/00-06/30/03, \$105,000.
7. “Jak Stat pathways as cancer therapeutic targets”, P.I.: M. Talpaz, Co-Investigator: R.A. Kirken, M.D. Anderson Multidisciplinary Research Program, 07/01/01-06/31/03, \$250,000.
8. “Genetic disease due to Jak3 deficiency”. Sponsor: R.A. Kirken, Recipient: F. Behbod, Schissler Foundation, 12/01/00-11/30/01, \$20,000.
9. “Identification of Jak3 substrates”. Sponsor: R.A. Kirken, Recipient: Z. Nagy, Gibco-BRL-Life Sciences Award, 09/01/00, \$5,000.
10. “Plethysmograph work station”, P.I.: R.A. Kirken, University of Texas Tobacco Settlement, Equipment Grant, 2003, \$13,500.
11. “Transcription Factor Stat5a/b: A novel target for regulating T-cell activity and allograft rejection”, P.I.:R.A. Kirken, Roche Organ Transplantation Research Foundation, 07/01/00-12/31/03, \$200,000.
12. “The Stat5a/b proline-directed serine kinase represents a new molecular target for promoting cardiac allograft acceptance”, PI: R.A. Kirken, AHA, 07/01/02-06/30/04, \$78,000.
13. “Signaling pathways in Lupus T-cells”, P.I.:R.A. Kirken, NIH-RO3, declined, 12/01/04-11/30/07, \$223,083.
14. Pharmacology of cyclosporine based immunosuppression”, PI: B.D. Kahan, (Co-Investigator) R.A. Kirken, (20%), NIH-RO1, 07/01/01–06/30/05, \$1,190,000.
15. “Role of IL4/IL4R in Transplantation tolerance”, PI: S.M. Stepkowski, (Co-Investigator) R.A. Kirken, (20%), NIH-R21, 09/01/01–08/31/05, \$669,750.
16. “NIH T32-\$5,000,000 Training Program in Craniofacial-Oral Biology Research Grant, Funding Period: 08/01/03-07/31/08. Co-Investigator: R.A. Kirken. (UT-Dental Branch). Funded Jeremy Ross.
17. T-cell growth factor pathways and immune modulation”, P.I.: R.A. Kirken, NIH-RO1, 07/01/03-12/31/08, \$1,171,539.
18. NIH R21 \$200,000 for “The role of Socs in regulation of transplantation tolerance”. P.I. Stepkowski. R.A. Kirken Co-investigator, (10%) NIHR21, 04/1/04-3/31/2005, \$200,000.
19. “Screening for small molecule inhibitors of Stat5”, P.I. R.A. Kirken, NIH-RO3,10/01/04-9/30/05 \$74,250.
20. “Clonal Deletion of T and B Cells” P.I. S. Stepkowski, Co-PI R.A. Kirken (20%) NIH-RO1, 7/01/2004-6/31/2009, \$1,000,000 direct
21. “Pharmacoinformatics”. Mentor to Post-doctoral Fellow Zsuzsanna Nagy. UT Health Science Center NIHT32 Training Grant Funded salary position, 4/1/2005-3/31/2006,



\$49,487.

22. "Validation of a putative drug target for the treatment of Leukemia". Coldwell Foundation. (PI Kirken) \$100,000 10/01/06-09/30/07.
23. "Joint program between UTEP and UTMB: Proteomics-DNA Work Station for Infectious Disease Surveillance on the US-Mexico Border". (PI Kirken and Castro), LERR Funds from UT System awarded to UTEP. \$1,000,000.
24. "Nanodrop Spectrophotometer Package". (PIs Kirken and K. Johnson), Mckee Foundation, \$15,000, February 14, 2008.
25. Research Center at Minority Institutions and Borders Biomedical Research Center. NIH grant (PI Natalicio). R.A. Kirken, Deputy Director. 5G12RR008124. June 1, 2003-May 31, 2008, \$9,260,913.
26. "Validation of a putative drug target for the treatment of Leukemia". Coldwell Foundation. (PI Kirken) \$100,000, 10/01/07-09/30/08.
27. Research Center at Minority Institutions and Borders Biomedical Research Center. NIH grant (PI Natalicio). R.A. Kirken, Program Director. 5G12RR008124. Bridge funds May 15, 2008 to March 1, 2009. \$704,706.
28. "NC1153 a novel Jak3 inhibitor". P.I. R.A. Kirken. Novartis Pharmaceuticals. December 1 2004 to November 30, 2008, \$318,374.
29. Texas Ignition Fund, "NC1153 as a novel agent to block allograft rejection", PI R.A. Kirken, September, 1, 2008, August 30, 2009. \$50,000.
30. Boeing Corporation. "IATCS Coolant Support and Design Phase 1: Degradation of OPA. PI R.A. Kirken. 1/30/09-9/30/09, \$135,720.
31. "Jak3 as a target for the treatment of Leukemia". Coldwell Foundation. (PI Kirken) \$135,000 10/01/08-5/30/10.
32. "Jak3 as a target for the treatment of Leukemia". Coldwell Foundation. (PI Kirken) \$125,000 2/01/10-1/31/11.
33. Research Center at Minority Institutions and Borders Biomedical Research Center. NIH grant (PI Natalicio). R.A. Kirken, Program Director. 5G12RR008124. Supplemental Funds May 31, 2008 to June 30, 2011. \$480,362.
34. Research Center at Minority Institutions and Borders Biomedical Research Center. NIH grant (PI Natalicio). Co-PI R.A. Kirken, Program Director. 5G12RR008124. July 1, 2009 to June 30, 2014. \$12,379,750.
35. Hispanic Health Disparities Research Center. NIH Grant (PI Provencio Vasquez, E), Kirken Co-I at 10% effort. June 1, 2009 to May 31, 2014. \$4,618,451.
36. Treatment of immune mediated diseases that affect the Hispanic community. PI F. Pericle, Co-PI R.A. Kirken NIH SBIR 1R43RR032354-01. 12-2010-6-2011, \$138,400.
37. Tumor Banking for the Treatment of Leukemia and Lymphoma. PI R.A. Kirken. Marsh Foundation. 12-20-2010-12-19-2011, \$36,000.
38. Tumor Banking for the Treatment of Leukemia and Lymphoma. PI R.A. Kirken. Marsh Foundation. 12-24-2011-12-19-2012, \$150,000.

39. "Jak3 as a target for the treatment of Leukemia". Coldwell Foundation. (PI Kirken) \$100,000 01/11-5/30/12.
40. Novel Therapeutic Strategies to treat certain forms of Leukemia. Marsh Foundation. (PI Kirken) \$107,503.00. December 31, 2012 – December 30, 2013.
41. "Jak3 as a target for the treatment of Leukemia". Coldwell Foundation. (PI Kirken) \$60,000 07/01/16-6/30/17.
42. Premier Biomedical, Selective Depletion of Reactive Disease Causing Molecules". (PI Kirken). \$1,107,315. 8/1/2012 – 7/31/ 2017.
43. Research Center at Minority Institutions and Borders Biomedical Research Center. NIH grant (PI R.A. Kirken). 5G12RR008124. Award begin/end 04/1/2014 to 03/31/2019. \$14.4m.

## **PUBLICATIONS**

---

### **Selected Abstracts (from greater than 150 presentations)**

1. Prochaska, L.J., Fink, P.S, Leffak, I.M. and **Kirken, R.A.**: Characterization of bacterial DNA homologous to bovine mitochondrial DNA encoding cytochrome c oxidase subunit III. FASEB J. 2: A2775, 1989.
2. **Kirken, R.A.** and Prochaska, L.J.: An alternative procedure for the isolation of Bacillus PS3 cytochrome c oxidase. FASEB J. 4:A2772, 1990.
3. **Kirken, R.A.**, and Prochaska, L.J.: Structural and functional characterization of Bacillus PS3 cytochrome c oxidase. Gordon Conference on Energy Coupling Mechanisms. New Hampshire, 1991.
4. **Kirken, R.A.** and Prochaska, L.J. Comparison of the terminal oxidases from Bacillus PS3 (caa3) and E. coli (oo3) using limited proteolysis and chemical modification. FASEB J. 6: A-192, 1992.
5. Farrar, W.L., Garcia, G.G., Evans, G.A., **Kirken, R.A.**, and Howard, O.M.Z.: Characterization of a 97 kDa tyrosine kinase **associated** with the IL-2 receptor complex: Lack of requirement for src-related enzymes. J. Cell. Biochem. 17B (E 507):111, 1993.
6. Evans, G.A., **Kirken, R.A.**, and Farrar, W.L.: IL-2-dependent activation of receptor specific and mitogenic tyrosine kinase pathways: Increased activity of a p97 mitogenic pathway in HTLV-1 transformed T cells. J. Cell. Biochem. 17A: 252, 1993.
7. **Kirken, R.A.**, Rui, H., Howard, O.M.Z., and Farrar, W.L.: Comparative analysis of prolactin and IL-2 receptor-associated phosphotyrosyl proteins and tyrosine kinase activity in lymphocytes. Neuroendocrinology VI International Prolactin Congress. (D 7): 21, 1993.

8. **Kirken, R.A.**, Rui, H.R., and Farrar, W.L.: Activation of distinct receptor-associated tyrosine kinases by IL-2 and prolactin in T lymphocytes; Role of JAK family kinases. *J. Cell. Biochem.* 18D: 403, 1994.
9. Kawamura, M., Johnston, J.A., **Kirken, R.A.**, Chen, Y.Q., Lal, B.K., Blake, J.E., Staples, A.L., Subota, K., Ortaldo, J.R., McVicar, D., and O'Shea, J.J.: L-JAK, a novel Janus kinase protein tyrosine kinase that is expressed in activated leukocytes and is functionally coupled to the Interleukin-2 (IL-2) receptor. Tenth Annual Meeting on Oncogenes: 36, 1994.
10. **Kirken, R.A.**, Rui, H. and Farrar, W.L.: The Nb2 lymphoma as a model for studies of signal transduction by receptors for prolactin and three cytokines which utilize the IL2 receptor  $\gamma$ -chain, interleukins 2,4,7. The Endocrine Society, 76th Meeting: 446, 1994.
11. Rui, H., DaSilva, L., **Kirken, R.A.**, Howard, O.M.Z. and Farrar, W.L.: Interaction of the prolactin receptor with the cytoplasmic tyrosine kinase JAK2. The Endocrine Society, 76th Meeting: 334, 1994.
12. Malabarba, M.G., **Kirken, R.A.**, Rui, H., Kawamura, M., O'Shea, J.J., and Farrar, W.L.: Interaction of JAK3 and JAK1 with the IL4 receptor complex. *J. Cell. Biochem.* 19A:55, 1994.
13. Rui, H., Erwin, R., **Kirken, R.A.**, and Farrar, W.L. Genistein and Staurosporine block prolactin-induced tyrosine phosphorylation of Shc without inhibiting JAK2: Evidence for Shc phosphorylation by a downstream tyrosine kinase. *J. Cell. Biochem.* 19A:352, 1994.
14. **Kirken, R.A.**, Rui, H., Malabarba, M.G., Kawamura, M., O'Shea, J.J., and Farrar, W.L.: Interaction of JAK1 and JAK3 tyrosine kinases with the IL2 receptor complex. *J. Cell. Biochem.* 19A: 38, 1994.
15. Malabarba, M.G., Rui, H., Erwin, R.A., Farrar, W.L., and **Kirken, R.A.**: Interleukin 13 utilizes the interleukin 4 receptor  $\alpha$ -chain and the interleukin 2 receptor  $\gamma$ -chain. N.I.H Research Festival. 53, 1995.
16. DaSilva, L., Rui, H., **Kirken, R.A.**, Erwin, R.A., Malabarba, M.G., Howard, O.M.Z., Hackett, R.A., Lerner, A.L., and Farrar, W.L.: Prolactin receptor-mediated activation of STAT transcription factors. N.I.H. Research Festival. 54, 1995.
17. **Kirken, R.A.**, Malabarba, M.G., Rui, H., Erwin, R.A., Kalthoff, F.S., and Farrar, W.L.: Interleukin-13 mimics interleukin-4 induced activation of JAK3 and STAT6 via heterodimerization of interleukin-4 receptor  $\alpha$  and interleukin-2 receptor  $\gamma$ . Keystone Symposia: Molecular and Cellular Biology, 74, 1996.
18. **Kirken, R.A.**, Malabarba, M.G., Rui, H., Erwin, R.A., Kalthoff, F.S., Farrar, W.L.: IL13 is a potent activator of JAK3 in cells derived from lymphoid and myeloid origins. *Eur. Cytokine Net.* 7:476, 1996.
19. Pericle, F., **Kirken, R.A.**, Bronte, V., Sconocchia, G., DaSilva, L., and Segal, D.M.: Immunocompromised tumor bearing mice show a selective loss of STAT5a/b expression in

T and B lymphocytes. Keystone Symposia: Molecular and Cellular Biology. 75, 1997.

20. **Kirken, R. A.**, Erwin-Cohen, R.A., Behbod, F., Wang, M., Ku, J., Stepkowski, S.M., Kahan, B.D.: Tyrphostin AG490 blocks activation of JAK3 and rejection of heart allografts in rats. 25<sup>th</sup> Annual Scientific Meeting of the American Society of Transplant Surgeons. May 1999, Chicago, Illinois.
21. **Kirken, R.A.**, Behbod, F., Erwin-Cohen, R.A., Stepkowski, S., and Kahan, B.D.: Inhibition of Jak3 tyrosine kinase by PNU156804 blocks rat heart allograft rejection. *Transplantation*. 69(8): S397, 1999.
22. **Kirken, R.A.**, Erwin-Cohen, R.A., Behbod, F., Wang, MR., Stepkowski, S.M., Kahan, B.D. Tyrphostin B42 selectively inhibits activation of the Jak3/Stat5/Mapk pathway and rejection of rat heart allografts. *Transplantation*. 69(8): S411, 1999.
23. Wang, M.E., **Kirken, R.A.**, Behbod, F., Erwin-Cohen, R., Stepkowski, S.M., Kahan, B.D.: Inhibition of JAK3 tyrosine kinase by PNU156804 blocks rat heart allograft rejection. XVIII International Congress of the Transplantation Society, Rome, Palazzo dei Congressi, August 27-September 1, 2000.
24. **Kirken, R.A.**, Erwin-Cohen, R., Behbod, F., Wang, M.E., Stepkowski, S.M., Kahan, B.D. Tyrphostin B42 selectively inhibits activation of the JAK3/STAT5/MAPK pathway and rejection of heart allografts in rats. XVIII International Congress of the Transplantation Society, Rome, Palazzo dei Congressi, August 27-September 1, 2000.
25. Wang, M.E., Yu, J., Akioka, K., **Kirken, R.A.**, Stepkowski, S.M., Kahan, B.D.: Alterations of T cell signaling from tolerant hosts induced by oral administration of an allochimeric class I MHC protein. XVIII International Congress of the Transplantation Society, Rome, Palazzo dei Congressi, August 27-September 1, 2000.
26. Tian, L., Qu, X., Wang, M.E., **Kirken, R.A.**, Bennett, F.C., Stepkowski, S.M.: Selective inhibition of IL-2 mRNA blocks allograft rejection by limiting T cell clonal expansion. XVIII International Congress of the Transplantation Society, Rome, Palazzo dei Congressi, August 27-September 1, 2000.
27. Wang, M.E., **Kirken, R.A.**, Trawick, B.W., Yu, J., Akioka, K., Stepkowski, S.M., Kahan, B.D.: Tolerance induction by alteration of T cell receptor (TCR) signaling using an allochimeric donor/recipient class I MHC protein. XVIII International Congress of the Transplantation Society, Rome, Palazzo dei Congressi, August 27-September 1, 2000.
28. Wang, Y., Erwin-Cohen, and **Kirken, R.A.** Differential activation and regulation of signal transducer and activator of transcription by interleukin (IL)4 and IL13 in T cells. Seventeenth Annual Meeting on Oncogenes: Cancer Cell Signal Transduction, June 20-23, 2001, Hood College, Frederick, MD.
29. Nagy, Z., Stepkowski, S.S., Monia, B.P., and **Kirken, R.A.** The role of Raf isoforms in mediating cell proliferation of cells activated by multiple common IL2 receptor gamma chain cytokine. Seventeenth Annual Meeting on Oncogenes: Cancer Cell Signal

Transduction, June 20-23, 2001, Hood College, Frederick, MD.

30. **Kirken, R.A.**, Behbod, F., Erwin-Cohen, R., Kahan, B.D., Nagy, Z., Wang, M.E. Concomitant inhibition of Jak3 and calcineurin-but not rapamycin-dependent signaling pathways synergistically prolong the survival of rat heart allografts. 2001 A Transplant Odyssey, Istanbul Convention & Exhibition Center, Istanbul, Turkey, August 20–23, 2001.
31. Stepkowski, S.M., Behbod, F., Kahan, B.D., **Kirken, R.A.**, Erwin-Cohen, R., Wang, M.E. Inhibition of Jak3 alone blocks allograft rejection and is synergistic in combination with cyclosporine but not rapamycin. 2001 A Transplant Odyssey, Istanbul Convention & Exhibition Center, Istanbul, Turkey, August 20–23, 2001.
32. Tian, L., Bennett, F.C., **Kirken, R.A.**, Qu, X., Stepkowski, S.M., Wang, M.E. Selective inhibition of IL-2 mRNA blocks allograft rejection by limiting T cell clonal expansion. 2001 A Transplant Odyssey, Istanbul Convention & Exhibition Center, Istanbul, Turkey, August 20–23, 2001.
33. **Kirken, R.A.** IL2 regulates the activation of multiple Raf isoforms (A, B and C) in primary human T-cells: Role of Rafs in T-cell growth and rat heart allograft survival. American Society of Transplantation, Washington, D.C. April 28, 2002.
34. S.M. Stepkowski, Janczewska, S., Trawick, B., Wang, M., Tejpal, N., Wang, M., Qu, X., Kahan, B.D., **Kirken, R.A.** Three signals are required to induce T regulatory cells that maintain transplantation tolerance, *Transplantation* 2002, 74: 29. International Congress of the Transplantation Society, Miami Fl, August 25-30.
35. Stepkowski, S.M., Erwin-Cohen, R.A., Behbod, F., Wang, M., Kahan, B.D., and **Kirken, R.A.**: Inhibition of Jak3 in T cells blocks allograft rejection and acts synergistically in combination with cyclosporine. *Transplantation* 2002, 74: 231. International Congress of the Transplantation Society, Miami Fl, August 25-30, 2002.
36. Wang, M.E., Stepkowski, M.S., **Kirken, R.A.**, Dimmock, J., Kahan, B.D. In Vivo Immunosuppressive effects of NC1153, A novel selective Janus tyrosine kinase 3 (JAK3) antagonist. June 2003, American Society of Transplantation, Washington, D.C. *American Journal of Transplantation* 3(S): 305, 2003.
37. **Kirken, R.A.**, Stepkowski, M.S., Dimmock, J.R., Erwin-Cohen, R., Tejpal, N., Wang, M.E., Kahan, B.D. NC1153 is a novel water soluble mannich base that selectively inhibits Janus tyrosine kinase (Jak)3 and prolongs allograft survival. June 2003, American Society of Transplantation, Washington, D.C. *American Journal of Transplantation* 3(S): 269, 2003.
38. Janczewska, S., Furian, L., Zhang, Y., Wang, M.E., **Kirken, R.A.**, Kahan, B.D., Stepkowski, S.M. Mechanism of action by a new Jak3 inhibitor, NC1153, to block allograft rejection. June 2003, American Society of Transplantation, Washington, D.C. *American Journal of Transplantation* 3(S): 256, 2003.
39. Stepkowski, S.M., Furian, L., Janczewska, S., Zhang, Y., Tajpal, N., Wang, M., **Kirken,**

- R.A.**, Dimmock, J., Kahan, B.D. Janus tyrosine kinase (JAK3) inhibitor, NC1153, induces apoptosis of T cells and Donor-specific transplantation tolerance. *Am. Journal Transplantation*, Vol.4, Suppl. 8, May 2004, p.185. American Transplant Congress, Boston, MA, May 15-19, 2004.
40. Podder, H., Stepkowski, S.M., Wang, M., Verani, R., Dimmock, J., **Kirken, R.A.**, Kahan, B.D. Selective janus kinase 3 (JAK3) antagonist acts synergistically with cyclosporine (CsA) but lacks side effects associated with CsA/sirolimus combination. *Am. Journal of Transplantation*, Vol.4, Suppl. 8, May 2004, p.286. American Transplant Congress, Boston, MA, May 15-19, 2004.
  41. Zhang, Y., **Kirken, R.A.**, Janczewska, S., Furian, L., Qu, X., Wang, M., Kerman, R., Stepkowski, S.M. SOCS3 and c-maf are involved in generation and maintenance of th2 regulatory (Th2reg) cells in transplantation tolerance. *Am. Journal of Transplantation*, Vol.4, Suppl. 8, May 2004, p.306. American Transplant Congress, Boston, MA, May 15- 19, 2004.
  42. Zhang, Y., **Kirken, R.A.**, Janczewska, S., Qu, X., Wang, M., Kerman, R., Stepkowski, S.M. Stat5a/b transcription factors are important for T but not B cell functions during allograft rejection. *Am. Journal of Transplantation*, Vol.4, Suppl. 8, May 2004, p.538. American Transplant Congress, Boston, MA, May 15-19, 2004.
  43. Dagvadorj, H.Z., King R.L., Zhang, Y., Albanese, C., Glass, A., Gelmann, E.P., Visakorpi, T., **Kirken, R.A.**, Nevalainen, M.T. Transcription factor Stat5, survival factor for prostate cancer, is activated in hormone refractory human prostate cancer. Lombardi Cancer Center-Georgetown University, Georgetown, MD, February 11, 2005.
  44. Qi, Y., Qu, A., Feng, Z., **Kirken, R.**, Kerman, R., Stepkowski, S. Both IL-10-Producing CD4+CD25+ T Cells and CD4+ T Helper 2 Cells Regulate Transplantation Tolerance. Vol.5, Suppl.11, May 2005, p.364. American Journal of Transplantation, Surgery, UT-Medical School, Houston, TX, May 23, 2005.
  45. Zhang, Y., Feng, Z., **Kirken, R.**, Qi, Y. Stat6-Dependent TH2 Regulatory Cells Contribute to Tolerance and are controlled by SOCS3, GATA-3 and C-MAF but not FOXP3. Vol.5, Suppl.11, May 2005, p.539. American Journal of Transplantation, Surgery, UT-Medical School, Houston, TX, May, 23, 2005.
  46. Podder, H., Stepkowski, S., Wang, M., Dimmock, J., **Kirken, R.**, Kahan, B.D. JAK3 Antagonist NC1153 inhibits rejection and acts synergistically with cyclosporine but lacks side effects even in high risk toxicity models. Vol.5, Suppl.11, May 2005, p.556. American Journal of Transplantation, Surgery, UT-Medical School, Houston, TX, May 23, 2005.
  47. Cheng, H, Ross J, Stepkowski S , Frost J.A., and **Kirken R.A.**: Phosphorylation on Novel Tyrosines Regulates Janus Kinase 3 (Jak3) Activity. *Keystone Symposia: Cell Signaling and Proteomics*, 2007
  48. Nagy, Z.S., Rui, H., Stepkowski SM, Karras J., **Kirken RA.** A preferential role for Stat5, not constitutively active Stat3, in promoting survival of a human lymphoid tumor Jaks, *Stats*



and Immunity Keystone Symposia, Steamboat Springs, Colorado, USA, January 5 - 10, 2007

49. Nagy, Z.S., Balint, L.B., Nagy, L. and **Kirken, R.A.** Genome-wide identification of IL2-induced Stat5 binding sites in a human T cell leukemia model Annual Meeting, Hungarian Biochemical Society, Debrecen, Hungary August 26-29, 2007.
50. Ortiz, S., Gutierrez, C., Ross, J.A., **Kirken, R.A.** and Nagy, Z.S. Subcellular localization of Stat5 following CD95 (Fas) ligation or IL2 withdrawal of human Kit225 cells SACNAS – The Society for the Advancement of Chicanos and Native Americans in Science Annual Conference 2007 – “Stretching the Imagination to Support Leadership and Sustainability” Kansas City, MO October 11-14, 2007.
51. Ross, J.A., **Kirken, R.A.** Targeting novel molecular pathways for detection and treatment of leukemia and lymphoma within the Hispanic population. National Center for Integrative Biomedical Informatics (NCIBI) Workshop on Translational Bioinformatics, University of Michigan, Ann Arbor, Michigan, July 29th – 30<sup>th</sup>, 2009
52. Ross, J.A., **Kirken, R.A.** Novel regulatory mechanisms governing JAK3/STAT5 activation in human lymphocytes. The University of Toledo Workshop on Infection and Immunity, Toledo, Ohio, October 23rd – 24th, 2009.
53. Muñoz C., Ross J.A., Avila R., **Kirken R.A.** and Nagy Z.S. Characterization of a Novel Interaction Between APPL1 and the IL-2R Signaling Complex. SACNAS National Conference, Improving the Human Condition: Challenges for Interdisciplinary Science October 15-18, 2009 Dallas, TX, USA.
54. Nagy Z.S., Ross, J.A., Rodriguez, G., Bader, J.O., Dimmock, J. and **Kirken, R.A.** Uncoupling JAK3 activation induces apoptosis in human lymphoid cancer cells via regulating critical survival pathways FEBS-Special Meeting 2010 Jak-Stat Signaling: from Basics to Disease February 10 - 13, 2010 Vienna, Austria.
55. Rodriguez G., Ross, J.A., Nagy Z.S., **Kirken, R.A.** Negative Regulation of Cytokine Signaling In T-Lymphocytes. 12<sup>Th</sup> RCMi International Symposium December 6-9, 2010 Nashville, Tennessee.
56. Ross, J.A., Wilson, H., Canales, F., Mitra A., **Kirken, R.A.** Role of Prohibitins in T-cell Malignancy. 12<sup>Th</sup> RCMi International Symposium December 6-9, 2010 Nashville, Tennessee.
57. Ross, J.A., Mitra, A., Rodriguez, G., Nagy, Z.S.; Wilson, H.L., **Kirken, R.A.** Novel Mechanism of Stats Regulation in Hispanic Cancers. 13<sup>th</sup> RCMi International Symposium December 9-13, 2012 San Juan, Puerto Rico.
58. Pericle, F., Ross, J.A., Damaris, R., **Kirken, R.A.** Targeting Jak3 as a novel therapy for leukemia and lymphoma. 13<sup>th</sup> RCMi International Symposium December 9-13, 2012 San Juan, Puerto Rico.



59. Ruiz, B. E., Ross, J.A., **Kirken, R.A.** Purification and Phosphosite mapping of Interleukin2 Receptor B. 13<sup>th</sup> RCMI International Symposium December 9-13, 2012 San Juan, Puerto Rico.
60. **Hartman, LLR, Farah, D, Mulne, AF, Storrs, BB, Wilson, HL, Bryson, S, Oaxaca, DM, Kirken, RA, Ross, JA.** Integration of a personalized molecular targeted therapy into the multimodal treatment of refractory early childhood sPNET. 2013 American Association for Cancer Research - Pediatric Cancers at the Crossroads: Translating Discovery into Improved Outcomes Meeting. November 3-6, 2013, San Diego, CA.
61. Ross, JA, Spadaro, M, Rosado, DC, Cavallo, F, **Kirken, RA**, Pericle, F. 2013. Discovery of a Highly-Selective and Orally-Active JAK3 Inhibitor with Therapeutic Efficacy in T-cell Malignancies. MCA Biomedical Research Symposium. October 25-26, 2013, El Paso, TX.
62. Rivera-Peterson, V. Rodriguez, G. Ross, J.A. **Kirken, R.A.** Jak3: Not Just Another Kinase Target for Leukemia and Lymphoma Therapy. COURI Symposium. El Paso, TX. August 2013

### Refereed Original Articles in Journals

1. **Kirken, R.A.,** Rui, H., Evans, G.A., and Farrar, W.L.: Characterization of an interleukin-2 (IL-2) induced tyrosine phosphorylated 116-kDa protein associated with the IL-2 receptor  $\beta$ -subunit. *J. Biol. Chem.* 268:22765-22770, 1993.
2. Rui, H., **Kirken, R.A.,** and Farrar, W.L.: Activation of receptor-associated tyrosine kinase JAK2 by prolactin. *J. Biol. Chem.* 269:5364-5368, 1994.
3. Johnston, J.A., Kawamura, M., **Kirken, R.A.,** Chen Y.Q., Blake, T.B., Subota, K., Ortaldo, J.R., McVicar, D.W., and O'Shea, J.J.: Phosphorylation and activation of the JAK3 Janus Kinase in response to interleukin-2. *Nature.* 370: 151-153, 1994.
4. DaSilva, L., Howard, O.M.Z., Rui, H., **Kirken, R.A.,** and Farrar, W.L.: Growth signaling and JAK2 association mediated by membrane-proximal cytoplasmic regions of prolactin receptors. *J. Biol. Chem.* 269:18267-18270, 1994.
5. **Kirken, R.A.,** Rui, H., Malabarba, M.G, and Farrar, W.L.: Identification of the IL2 receptor associated tyrosine kinase p116 as novel leukocyte specific Janus kinase, L-JAK. *J. Biol. Chem.* 269:19136-19141, 1994.
6. Rui, H., Lebrun, J.J., **Kirken, R.A.,** Kelly, P.A., and Farrar, W.L.: JAK2 activation and cell proliferation induced by antibody-mediated prolactin receptor dimerization. *Endocrinology.* 135: 1299-1306, 1994.
7. Howard, O.M.Z., **Kirken, R.A.,** Garcia, G.G., Hackett, R.H., and Farrar, W.L.: Structural

- domains of IL-2 receptor Beta critical for signal transduction: Kinase association and nuclear complex formation. *Biochemistry J.* 306:217-224, 1995.
8. Malabarba, M.G., **Kirken, R.A.**, Rui, H., Koettnitz, K., Kawamura, M., O'Shea, J.J., Kaltoff, F., and Farrar, W.L.: Activation of JAK3, but not JAK1, is critical to interleukin-4 (IL4) stimulated proliferation and requires a membrane-proximal region of IL4 receptor  $\alpha$ . *J. Biol. Chem.* 270:9630-9637, 1995.
  9. Erwin, R.A., **Kirken, R.A.**, Malabarba, M.G., Farrar, W.L., and Rui, H.: Prolactin activates RAS via signaling proteins SHC, Growth Factor Receptor Bound 2 and Son of Sevenless. *Endocrinology* 136:3512-3518, 1995.
  10. **Kirken, R.A.**, Rui, H., Malabarba, M.G., Kawamura, M., O'Shea, J.J., and Farrar, W.L.: Activation of JAK3, but not JAK1, is critical for IL2-induced proliferation and STAT5 recruitment by a COOH-terminal region of the IL2 receptor  $\beta$ -chain. *Cytokine.* 7:789-800, 1995.
  11. **Kirken, R.A.**, Lincoln, A.J., Fink, P.S. and Prochaska, L.J. High yield purification of a four subunit *caa3*-type cytochrome oxidase from the thermophilic bacterium *Bacillus PS3* using fast protein liquid chromatography. *J. Protein Expression and Purification* 6: 707-715, 1995.
  12. DaSilva, L., Rui, H., Erwin, R.A., Howard, O.M.Z., **Kirken, R.A.**, Malabarba, M.G., Hackett, R.H., Lerner, A.C., and Farrar, W.L.: Prolactin recruits STAT1, STAT3, and STAT5 independent of conserved receptor tyrosine's Tyr402, Tyr479, Tyr515, and Tyr580. *Mol Cell Endocrinol.* 117:131-140, 1996.
  13. Pericle, F., **Kirken, R.A.**, Epling-Burnette, P.K., Blanchard, D.K., and Djeu, J.Y.: Direct killing of interleukin-2 transfected tumor cells by human neutrophils. *Int. J. Cancer.* 66:367-373, 1996.
  14. Malabarba, M.G., Rui, H., Deutsch, H.J.H., Koettnitz, K., Kalthoff, F., Farrar, W.L., and **Kirken, R.A.**: Interleukin-13 is a potent activator of JAK3 and STAT6 in cells expressing interleukin-2 receptor- $\gamma$  and interleukin 4 receptor  $\alpha$ . *Biochem J.* 319:865-872 1996.
  15. **Kirken, R.A.**, Malabarba, M.G., Xu, J., Farrar, W.L., Liu, X., Hennighausen, L., Lerner, A.C., Grimley, P.M. and Rui, H.: Prolactin stimulates serine/tyrosine phosphorylation and heterocomplexes of multiple STAT5 isoforms in Nb2 lymphocytes. *J. Biol. Chem.* 272:14098-14103, 1997.
  16. **Kirken, R.A.**, Malabarba, M.G., Xu, J., DaSilva, L., Erwin, R.A., Liu, X., Hennighausen, L., Rui, H. and Farrar, W.L.: Two discrete regions of interleukin-2 (IL2) receptor- $\beta$  independently mediate IL2 activation of a PD98059/rapamycin/wortmannin insensitive STAT5a/b serine kinase. *J. Biol. Chem.* 272:15459-15465, 1997.
  17. Curiel, R.E., Lahesmaa, R., Subleski, J., Cippitelli, M., **Kirken, R.A.**, Young, H.A., and Gosh, P.: Identification of a STAT-6-responsive element in the promoter of the human IL-4 gene. *Eur. J. Immunol.* 27:1982-1987, 1997.

18. Pericle, F., **Kirken, R.A.**, Bronte, V., Sconocchia, G., DaSilva, L., and Segal, D.M.: Immunocompromised tumor bearing mice show a selective loss of STAT5a/b expression in T and B lymphocytes. *J. Immunol.* 159:2580-2585, 1997.
19. Duhe, R.J., Evans, G.A., Erwin, R.A., **Kirken, R.A.**, Cox, G.W., and Farrar, W.L.: The role of thiol redox regulation of Janus Kinases in nitric oxide-mediated immunosuppression. *Proc. Natl. Acad. Sci. U.S.A.* 95:12-131, 1998.
20. Pericle, F., Pinto, L.A., Hicks, S., **Kirken, R.A.**, Sconocchia, G, Rusnak, J., Dolan, M.J., Shearer, G.M., and Segal, D.M.: HIV-1 infection induces a selective reduction in STAT5 protein expression. *J. Immunol.* 160:28-31, 1998.
21. Yu, C., Kirken, **R.A.**, Malabarba, M.G., Young, H.A., and Ortaldo, J.R.: Differential regulation of the JAK-STAT pathways and biological function of IL13 in primary human NK and T cells: A comparative study. *J. Immunol.* 161:218-227, 1998.
22. Yamashita, H., Xu, J., Erwin, R.A., Farrar, W.L., **Kirken, R.A.**, and Rui, H.: Differential control of the phosphorylation state of proline-juxtaposed serine residues S725 of Stat5a and S730 of Stat5b in prolactin-sensitive cells. *J. Biol. Chem.* 273:30218-30224, 1998.
23. DaSilva, L., **Kirken, R.A.**, Taub, D.D., Evans, G.A., Duhe, R.J., Bailey, M.A., and Farrar, W.L. Molecular cloning of FKHRL1P2, a member of the developmentally regulated fork head domain transcription factor family. *Gene.* 221:135-142, 1998.
24. Wang, L.H., **Kirken, R.A.**, Erwin, R.A., Yu, C-R., and Farrar, W.L. JAK3, STAT and MAPK Signaling Pathways as Novel Molecular Targets for the Tyrphostin AG-490 Regulation of IL-2-mediated T Cell Response. *J. Immunol.* 162:3897-3904, 1999.
25. **Kirken, R.A.**, Erwin, R.A., Taub, D., Murphy, W.J., Behbod, F., Wang, L., Pericle, F., and Farrar, W.L.: Tyrphostin AG-490 inhibits cytokine mediated JAK3/Stat5a/b signal transduction and cellular proliferation of antigen activated human T cells. *J. Leukoc. Biol.* 65:891-899. 1999.
26. Akioka, K., **Kirken, R.A.**, Wang, M., Tian, L., Yu, J., Stepkowski, S.M., and Kahan, B.D. Reduced expression of NF-AT and NF-kappa B transcription factors in tolerant recipients treated with tolerogenic allochimeric donor/recipient class I MHC. *Transplant. Proc.* 31:2745-2746, 1999.
27. Wang, L.H. Yang, X.Y., **Kirken, R.A.**, Resau, J.H., Farrar, W.L.: Targeted disruption of Stat6 by transfection of a cis element 'decoy' against Stat6 binding site results in blockade of IL-4 driven Th2 cell activity. *Blood.* 95:1249-1257, 2000.
28. Wang, L.H., **Kirken R.A.**, Yang, X.Y., Erwin, R.A., DaSilva, L., Yu, C.R., Farrar, W.L.: Selective disruption of interleukin 4 autocrine-regulated loop by a tyrosine kinase inhibitor restricts activity of T-helper 2 cells. *Blood.* 95:3816-3822, 2000.

29. **Kirken, R.A.**, Erwin, R.A., Wang, L., Wang, Y., Rui, H., Farrar, W.L.: Functional uncoupling of the Jak3-Stat5 pathway in malignant growth of HTLV-1 transformed human T-cells. *J. Immunol.* 165: 5097-5104, 2000.
30. Yen, C-H., Yang, Y-C., Ruscetti, S.K., **Kirken, R.A.**, Dai, R.M. and Li, C-C.: Involvement of Ubiquitin-proteasome pathway in the degradation of non-tyrosine kinase type cytokine receptor of interleukin-9, interleukin-2 and Erythropoietin. *J. Immunol.* 165: 6372-6380, 2000.
31. Behbod, F., Erwin-Cohen, R.A., Wang, M.E., Trawick, B.W., Tian, L., Qu, X., Verani, R., Kahan, B.D., Stepkowski, S.M., and **Kirken, R.A.**: Concomitant inhibition of Jak3- and calcineurin-dependent signaling pathways synergistically prolongs the survival of rat heart allografts. *J. Immunol.*, 166:3724-3732, 2001.
32. Wang, M.-E., **Kirken, R.A.**, Behbod, F., Erwin-Cohen, R., Stepkowski, S.M., and Kahan, B.D.: Inhibition of Jak3 tyrosine kinase by PNU156804 blocks rat heart allograft rejection. *Transplant Proceedings.* 33:201, 2001.
33. **Kirken, R.A.**, Erwin-Cohen, R., Behbod, F., Wang, M.-E., Stepkowski, S.M., and Kahan, B.D.: Tyrphostin AG490 selectively inhibits activation of the JAK3/STAT5/MAPK pathway and rejection of rat heart allografts. *Transplant Proceedings.* 33:95, 2001.
34. Tian, L., Qu, X., Wang, M.E., **Kirken, R.A.**, Bennett, F.C., and Stepkowski, S.M.: Selective inhibition of Il-2 mRNA blocks allograft rejection by limiting T cell clonal expansion. *Transplant Proceedings.* 33:330, 2001.
35. Qu, X., **Kirken, R.A.**, Tian, L., Wang, M., Bennet, F.C., and Stepkowski, S.M.: Selective inhibition of IL-2 gene expression by IL-2 antisense oligonucleotides blocks heart allograft rejection. *Transplantation.* 72:915-923, 2001.
36. Stepkowski, S.M., Erwin-Cohen, R.A., Behbod, F., Wang, M-E., Qu, X., Tejpal, N., Nagy, Z.S., Kahan, B.D., and **Kirken, R.A.**: A Selective Inhibitor of Janus Tyrosine Kinase (Jak) 3, PNU156804, prolongs allograft survival and acts synergistically with cyclosporine but additively with rapamycin. *Blood.* 99:600-609, 2002.
37. Yamashita, H. Nevalainen, M.T., Xu, J., LeBaron, M.J., Wagner, K-U., Erwin, R.A., Harmon, J.M., Hennighausen, L., **Kirken, R.A.**, Rui, H. Serine phosphorylation of Stat5a inhibits prolactin-stimulated  $\beta$ -casein gene expression in the absence of glucocorticoid receptor coactivation. *Mol. Cell. Endocrinol.*, 183: 151-163, 2001.
38. Stepkowski, S.M., Nagy, Z.S., Kahan, B.D., and **Kirken, R.A.**: The role of signals 1, 2 and 3 in induction of transplantation tolerance. *Transplant Proceedings.* 33:3831-3833, 2001.
39. Stepkowski, S.M., **Kirken, R.A.** Nagy, Z.S., Trawick, B.W., Wang, M., Tejpal, N., Wang, M., Tian, L., Clark, J., Kahan, B.D. The role of Stat5 in the induction of regulatory T cells in transplantation tolerance. *Transplant Proceedings.* 33:3835-3836, 2001.

40. Stepkowski, S.M., Wang, M., Behbod, F., Nagy, Z.S., Erwin-Cohen, R.A. Kahan, B.D. and **Kirken, R.A.**: PNU156804 inhibits Jak3 tyrosine kinase and rat heart allograft rejection. *Transplant Proceedings*. 33:3272-3273, 2001.
41. Stepkowski, S.M., **Kirken, R.A.**, Trawick, B.W., Wang, M., Tejpal, N., Wang, M., Tian, L., Clark, J., Kahan, B.D.: Allochimeric class I MHC protein-induced tolerance by partial TCR engagement requires activation of both CTL4-and common  $\gamma$ -chain dependent cytokine signals. *Transplantation*. 73:1227-1235, 2002.
42. Nagy, Z.S., Erwin-Cohen, R.A., Wang, L., Aradi, J., Monia, B., Stepkowski, S.M., Rui, H., **Kirken, R.A.**: Interleukin-2 family cytokines stimulate phosphorylation of the Pro-Ser-Pro motif of Stat5 transcription factors in human T cells: Resistance to suppression of multiple serine kinase pathways. *J. Leukoc. Biol.* 72: 819-28, 2002.
43. Behbod, F., Nagy, Z.S., Stepkowski, S.M., Karras, J., Johnson, C.R., Jarvis, W.D., and **Kirken, R.A.**: Specific inhibition of signal transducer and activator of transcription 5a and 5b (Stat5a/b) promotes apoptosis of IL2 responsive primary and human derive lymphoid cells. *J. Immunol.*, 171: 3919-3927, 2003.
44. Wang, Y., Malabarba, M.G., Nagy, Z.S., **Kirken, R.A.** IL4 Regulates Phosphorylation of Serine-756 in the Transactivation Domain of Stat6: Roles for Multiple Phosphorylation Sites and Stat6 Function. *J. Biol. Chem.* 279: 25196-25203, 2004.
45. Langer, R., Wang, M., Stepkowski, S.M., Hancock, W.H., Han, R., Li, P., Feng, L., **Kirken, R.A.**, Berens, K.L., Dupre, B., Dixon, R.A.F., Kahan, B.D. Selectin inhibitor bimosiamose prolongs survival of kidney allografts by reduction in intragraft production of cytokines and chemokines. *J. Am. Soc. of Nephrology*. 15: 2902-2907, 2004.
46. Stepkowski, S.M., Kao, J., Wang, M., Tejpal, N., Podder, H., Dimmock, J., Jha, A., Das, U., Kahan, B.D., **Kirken, R.A.** The Mannich base NC1153 promotes long-term allograft survival and spares the recipient from multiple toxicities. *J. Immunol.*, 175: 4236-4246, 2005.
47. Zhang, Y., **Kirken, R.A.**, Furian, L., Janczewska, S., Qu, X., Wang, M., Tejpal, N., Kerman, R., Kahan, B.D., Stepkowski, S.M. Allograft Rejection Requires STAT5a/b-regulated Anti-apoptotic Activity in T Cells But Not B cells. *J. Immunol.* 176: 128-137, 2006.
48. Qiu, L., Lai, R., Lin, Q., Lau, E., Thomazy, D.M., Calame, D., Ford, R.J., Kwak, L.W., **Kirken, R.A.**, and Amin, H.M. Autocrine release off Interleukin-9 promotes Jak3-dependent survival of ALK<sup>+</sup> Anaplastic Large Cell lymphoma cells. *Blood*, 108: 2407-2415, 2006.
49. Nagy, Z.S., Rui, H., Stepkowski, S.M., Karras, J., and **Kirken, R.A.** A preferential role for Stat5, not constitutively active Stat3, in promoting the survival of a human lymphoid tumor. *J. Immunol.*, 177: 5032-5040, 2006.

50. Neilson, L.M., Zhu, J., Malabarba, M.G. Sakamoto, K., Wagner, K.U., **Kirken, R.A.** Rui, H. Coactivation of Janus tyrosine kinase (Jak)1 positively modulates prolactin-Jak2 signaling in breast cancer: recruitment of ERK and signal transducer and activator of transcription (Stat)3 and enhancement of Akt and Stat5a/b pathways. *Mol. Endocrinology* 21: 2218-32, 2007.
51. Ross, J.A., Nagy, Z.S., and **Kirken, R.A.** The Phb1/2 phospho-complex is required for mitochondrial homeostasis and survival of human T cells. *J. Biol. Chem.*, 283, 4699-4713, 2008.
52. Tan S.H., Dagvadorj, A., Shen, F., Gu, L., Liao, Z., Abdulghani, J., Zhang, Y., Gelmann, E.P., Zellweger, T., Culig, Z., Visakorpi, T., Bubendorf, L., **Kirken, R.A.**, Karras, J., Nevalainen, M.T. Transcription factor Stat5 synergizes with androgen receptor in prostate cancer cells. *Cancer Research* 68: 236-248, 2008.
53. Dagvadorj, A., **Kirken, R.A.**, Leiby, B., Karras, J., Nevalainen, M.T. Transcription Factor Signal Transducer and Activator of Transcription 5 Promotes Growth of Human Prostate Cancer Cells In vivo. *Clinical Cancer Res.* 14: 1317-1324, 2008.
54. Cheng, H., Ross, J.A. Frost, J.F., and **Kirken, R.A.** Phosphorylation of human Jak3 at tyrosines 904 and 939 positively regulates its activity. *Mol. Cell. Biol.* 28: 2271-2282, 2008.
55. Nagy, Z.S., Lebaron, M.J., Ross, J.A., Mitra, A., Rui, H. **Kirken, R.A.** Stat5 regulation of BSL10 parallels constitutive NFkappaB activation in lymphoid tumor cells. *Mol. Cancer*, 2009. <http://www.molecular-cancer.com/content/8/1/67>
56. Ross, J.A., Cheng, H., Nagy, Z.S., Frost, J.A., and **Kirken R.A.** Protein Phosphatase 2A (PP2A) regulates Interleukin-2 Receptor complex formation and Jak3/Stat5 activation. Nov. 18<sup>th</sup>. *J. Biol. Chem.* [Epub ahead of print 2009] 285: 3582-2591, 2010
57. Nagy, ZS., Ross, J.A., Rodriguez, G. Bader, J. Dimmock, J. and **Kirken, R.A.**, Uncoupling JAK3 activation induces apoptosis in human lymphoid cancer cells via regulating critical survival pathways. *FEBS let.* [epub ahead of print 2010]. 584(8): 1515-20, 2010.
58. Mitra, A., Ross, J.A., Rodriguez, G. Nagy, Z.S., Wilson, H.L. and **Kirken, R.A.** Stat5 serine 193 is a novel cytokine induced phospho-regulatory site that is constitutively activated in primary hematologic malignancies. *J. Biol. Chem.* 287: 16596-608, 2012.
59. Nagy, Z.S., Ross, J.A., Rodriguez, G, Balint, B.L., Szeles, L., Nagy, L., **Kirken, R.A.** Genome wide mapping of IL-2 induced STAT5 target genes reveals PDE4B as a putative STAT5 regulated gene inhuman activated PBMCs and lymphoid cancer cells. *PLOS ONE* in Press, 2013.
60. Ross, J.A., Rodriguez, G., and **Kirken, R.A.**, Analysis of Janus tyrosine kinase phosphorylation and activation. *Methods Mol. Biol.* 967: 3-20, 2013.



61. Rodriguez, G., Ross, J.A., Nagy, Z.S., and **Kirken, R.A.** Forskolin inducible cAMP pathway negatively regulates T-cell proliferation by uncoupling the Interleukin-2 receptor complex. *J. Biol. Chem.*, 288: 7137-46, 2013.
62. Robles-Escajeda E, Lema, D, Nyakeriga, A.M., Ross, J.A., **Kirken, R.A.**, Aguilera, R.J., Varela-Ramirez, A., Searching in mother nature for anti-cancer activity: anti-proliferative and pro-apoptotic effect elicited by green barley on leukemia/lymphoma cells. *PLoS One* 8(9): 2013.
63. Nagy, Z.S., Ross, J.A., Rodriguez, G, Balint, B.L., Szeles, L., Nagy, L., **Kirken, R.A.** Genome wide mapping reveals PDE4B as an IL-2 induced STAT5 target gene in activated human PBMCs and lymphoid cancer cells. *PBMCs and lymphoid cancer cells. PLOS ONE* 8(2): 2013.
64. Ross, J.A., Spadaro, M., Rosado, D.C., Cavallo, F., **Kirken, R.A.**, Pericle, F. Inhibition of JAK3 with a novel, selective, and orally active small molecule induces therapeutic response in T-cell malignancies. *Leukemia*, 28(4): 941-44, 2014.
65. Ruiz-Medina, Ross, JA, **Kirken, R.A.** Interleukin-2 Receptor Beta Thre-450 is a positive regulator for receptor complex stability and activation of signaling molecules. *J. Biol. Chem.* 290: 20972-83, 2015.
66. Gonzalez, H. Lema, C., **Kirken, R.A.**, Maldonado, R.A., Varela-Ramirez, A., Aguilera, R.J. Arsenic-exposed keratinocytes exhibit differential microRNA expression profile: potential implications of miR-21, miR-200a and miR-141 in melanoma pathway. *Clinical Cancer Drugs.* 2(2): 138-147, 2015.
67. Martinez, G. Steven, Ross, J.A. **Kirken, R.A.** Transforming Mutations of Jak3 (A573 and M511) show differential sensitivity to selective Jak3 inhibitors. *Clinical Cancer Drugs.* 3(2): 131-137, 2016.
68. Oaxaca, DM. Yang-Reid, S.A. Ross, J.A., Rodriguez, G. Staniswalis, J.G., **Kirken R.A.** Sensitivity of imatinib-resistant T315I BCR-ABL CML to a synergistic combination of ponatinib and forskolin treatment. *Tumour Biol.* 37(9):12643-12654, 2016.
69. Parra, K., Valenzuela, P., Lerma, N., Gallegos, A., Reza, L., Rodriguez, GA, **Kirken, RA.**, Manciu, M., Felder, M., Emmenegger, U., Desidero, TD., Bocci, G., Francia. G. Impact of CTLA-4 blockade in conjunction with metronomic chemotherapy on preclinical breast cancer growth. *British Journal of Cancer:* 116 (3) 324-334, 2017.
70. Oaxaca, DM, Yang-Reid, SA, Ross, JA, Staniswalis, JG, **Kirken, RA.** Tyrosine Kinase Inhibitors and Phosphatases: Overcoming the BCR-ABL T315I Mutation in CML with a Synergistic Combination of Ponatinib and Forskolin *J Clin Cell Immunol* 2016, 7:5, 206



71. Ross, J.A., Robles-Escajeda, E., Eaxaca, D.M., Padilla, D.L., **Kirken, R.A.** The Prohibitin protein complex promotes mitochondrial stabilization and cell survival in hematologic malignancies. *Oncotarget*, 8(39): 65445-65456, 2017.
72. Ruiz-Medina, B.E., Cadena-Medina, D.A., Esparza E., Arrieta, A.J. and **Kirken R.A.** Isoproterenol-induced beta-2 adrenergic receptor activation negatively regulates interleukin-2 signaling. *Biochem. J.* 475 (18): 2907-2923, 2018.
73. Fu, G., Sanjay, S.T., Zhou, W., Brekken, R.A. **Kirken, R.A.**, and Li, X. Exploration of Nanoparticle-Mediated Photothermal Effect of TMB-H<sub>2</sub>O<sub>2</sub> Colorimetric System and Its Application in a Visual Quantitative Photothermal Immunoassay. *Anal. Chem.* 90(9); 5930-5937, 2018.
74. Manciu, M., Hosseini, S., Desidero, T.D., Allegrini, G., Falcone, A., Bocci, G., **Kirken, R.A.**, Francia, G. Optimization of biomarkers-based classification scores as progression-free survival predictors: an intuitive graphical representation. *Future Sci OA*; 4(10), 2018.
75. Hartman, L.R., Oaxaca, D.M., Carcamo, B., Wilson, H.L., Ross, J.A., Robles-Escajeda, E., and **Kirken, R.A.** Integration of a Personalized Molecular Targeted Therapy into the Multimodal Treatment of Refractory Childhood Embryonal Tumor with Multilayered Rosettes (ETMR). *Case Reports in Oncology*, 12(1):211-217, 2019.
76. Cho, S-G., Xiao X., Wang, X., Gao, H., Rafikov, R., Black, S., Huang, S., Ding, H., Yoon, Y., **Kirken, R.A.**, Yin, X., Wang, H., Dong, Z. Bif-1 interacts with prohibitin-2 to regulate mitochondrial inner membrane during cell stress and apoptosis. *Journal of the American Society of Nephrology*: 30 (7): 1174–1191, 2019.
77. Ruiz-Medina BE, Lerma D, Hwang M, Ross JA, Skouta R, Aguilera RJ, **Kirken RA**, Varela-Ramirez A, Robles-Escajeda E. Green barley mitigates cytotoxicity in human lymphocytes undergoing aggressive oxidative stress, via activation of both the Lyn/PI3K/Akt and MAPK/ERK pathways. *Scientific Reports* 9(1):6005, 2019.
78. Ofili EO, Tchounwou PB, Fernandez-Repollet E, Yanagihara R, Akintobi TH, Lee JE, Malouhi M, Garner, ST Jr, Hayes TT, Baker, AR, Dent, AL 2nd, Abdelrahim, M, Rollins, L, Chang, SP, Sy, A, Hernandez, BY, Bullard, PL, Noel, RJ Jr, Shiramizu, B, Hedges, JR, Berry, MJ, Bond, VC, Lima, MF, Mokuau, N, **Kirken, RA**, Cruz-Correa, M, Sarpong, DF, Vadgama, J, Yates, C, Kahn, SA, Soliman, KF, Perry G, Pezzano, M, Luciano, CA, Barnett ME, Oyekan A, Kumar, D, Norris, KC; RCMi Investigators and RTRN Team Members. The Research Centers in Minority Institutions (RCMI) Translational Research Network: Building and Sustaining Capacity for Multi-Site Basic Biomedical, Clinical and Behavioral Research. *Ethn. Dis.* 29 (Suppl): 135-144, 2019.

79. Valenzuela, P., Oaxaca, D., Desidero, TD, Parra, K., Rodriguez, G., Manciu, M., Allegrini, G., Falcone, A., Boccie, G. **Kirken, RA**, Francia, G. Pharmacodynamic biomarkers in metronomic chemotherapy: multiplex cytokine measurements in gastrointestinal cancer patients. *Clinical and Experimental Medicine*: 21,149–159, 2021.
80. Hernandez-Grant, A, Ayala-Marin, YM, Mohl, JE, Robles-Escajeda, E, Rodriguez, G, Dutil, J, **Kirken RA**. The genomic landscape of a restricted ALL cohort from patients residing on the US/Mexico border. *International J. of Environmental Research and Public Health* 18 7345, 2021.
81. Estrada, A., Rodriguez, A.C., Rodriguez, G. Grant, A.H., Ayala-Marin, Arrieta, A.J., **Kirken, R. A**. Phosphorylation of CrkL S114 induced by common gamma chain cytokines and T-cell receptor signal transduction. *Scientific Reports*. 11(1), 1695, 2021.
82. Ayala-Marin, Y.M, Grant. A.H., Rodriguez, G., **Kirken, R.A**. Quadruple and Truncated MEK3 Mutants Identified from Acute Lymphoblastic Leukemia Promote Degradation and Enhance Proliferation. *Internal J. Molecular Sciences* 22(22):12210, 2021.
83. Gutierrez, D.L. Contreras, L., Villanueva, P.J., Borrego, E.A., Morán-Santibañez, K., Hess, J.D., DeJesus, R., Larragoity, M., Betancourt, A.P., Mohl, J.E., Robles-Escajeda, E., Begum, K., Roy, S., **Kirken, R.A.**, Varela-Ramirez, A., Aguilera, R. J. Identification of a potent cytotoxic pyrazole with anti-breast cancer activity that alters multiple pathways. *Cells (11)* 2022, in press.

### Invited Articles (Reviews, Editorials, etc.) in Journals

1. **Kirken, R.A.**, Rui, H., Howard, O.M.Z., and Farrar, W.L.: Involvement of JAK-family tyrosine kinases in hematopoietin receptor signal transduction. *Prog. Growth Factor Res*. 5:195-211, 1994.
2. **Kirken, R.A.**, Evans, G.A., Duhe, R.J., DaSilva, L., Malabarba, M.G., Erwin, R.A., and Farrar, W.L.: Mechanisms of cytokine signal transduction: IL2, IL4 and prolactin as hematopoietin receptor models. *Vet. Immunol. Immunopathol*. 63:27-36, 1998.
3. Stepkowski, S.M. and **Kirken, R.A.**: The role of IL-2 in allograft rejection-a lesson learned from experimental work. *Transplantation*. 69:2480-2483, 2000.
4. **Kirken, R.A.**: Targeting Jak3 for immune suppression and allograft acceptance. *Transplant Proceedings*. 33:3268-3270, 2001.
5. **Kirken, R.A.** and Stepkowski, S.M.: New directions in T cell signal transduction and transplantation tolerance. *Current Opinions in Organ transplantation*.7:18-25, 2002.
6. **Kirken, R.A.** and Wang, Y.: Molecular action of Sirolimus: Sirolimus and mTor. *Transplant Proceedings*, 35: S227-230, 2003.

7. Kahan, B.D., **Kirken, R.A.**, Stepkowski, S.M.: New Approaches to transplant immunosuppression. *Transplantation Proceedings*, 35 (5):1621-3, 2003.
8. Nagy, Z.S., Ross, J., Cheng, H., Stepkowski, S.M. and **Kirken, R.A.** Regulation of lymphoid cell apoptosis by Jaks and Stats. *Critical Reviews in Immunology* 24: 87-110, 2004.
9. Stepkowski, S.M. and **Kirken, R.A.** Unique advantage of Janus kinase 3 as a target for selective and nontoxic immunosuppression. *Expert Review of Clinical Immunology* 1: 307-310, 2005.
10. Stepkowski, S.M., and **Kirken, R.A.** Jaks and Stats regulate critical T-cell activities required for allograft rejection and transplantation tolerance. *Transplantation*, 82: 295-303, 2006.
11. Ross, J.A., Nagy, Z.S., Cheng, H., Stepkowski, S.M., and **Kirken, R.A.** Regulation of T cell homeostasis by JAKs and STATs. *Arch. Immunol. Ther.*, 55: 231-245, 2007.
12. Stepkowski, S.M., Chen, W., Ross, J., Nagy, Z., and **Kirken, R.A.** Stat3: An Important Regulator of Multiple Cytokine Functions. *Transplantation* 85 (10): 1372-1377, 2008.
13. Ross, J. A., Rodriguez, G. and **Kirken, R.A.** Analysis of Janus Tyrosine Kinase Phosphorylation and Activation. *Methods in Molecular Biology* 967: 3-20, 2013.
14. Xing, M., Wang, X., **Kirken, RA**, He, L., Zhang, JY, Immunodiagnostic Biomarkers for Hepatocellular Carcinoma (HCC): The First Step in Detection and Treatment. *Int. J. of Molecular Sciences*: 22, 6139-6155, 2021.
15. Grant, AH, Estrada III, A, Ayala-Marin, Y, Alvidrez-Camacho, AY, Rodriguez, G, Robles-Escajeda, E, Cadena-Medina, DA, Rodriguez, AC and **Kirken RA**. The Many Faces of JAKs and STATs Within the COVID-19 Storm. *Frontiers in Immunology*: Article 690447. 2021.
16. Ruiz-Medina BE, Varela-Ramirez A, **Kirken RA**, Robles-Escajeda E The SARS-CoV-2 origin dilemma: Zoonotic transfer or laboratory leak? *Bioessays*. 44(1):e2100189. doi: 10.1002/bies.202100189. PMID: 34812505 (2022)

### Books/Chapters

1. Rui, H., Kirken, R.A., Howard, O.M.Z., Duhe, R.J., Evans, G.A., and Farrar, W.L.: The role of hematopoietic growth factors in signal transduction. *Immunopharmacology of Allergic diseases*, Robert G. Townley and Devendra K. Agrawal, Editors, Marcel Dekker, Inc., pp 29-77, 1996.

2. Evans, G.A., Duhe, R.J., Kirken, R.A., DaSilva, L., Erwin, R.A., Malabarba, M.G., and Farrar, W.L.: Cytokine driven signal transmission, In *New Technologies in Cell Cycle*, Brian Metcalf, Fobert Roffolo, and George Poste, Editors, Harwood Academic Publishers, Amsterdam, pp 91-116, 1997.
3. Leung, M.-Y., Knapka, J.A., Wagler, A.E., Rodriguez, G., Kirken, R.A. (2016) OncoMiner: A pipeline for bioinformatics analysis of exonic sequence variants in cancer. In: *Big Data Analytics in Genomics*, Wong, K.C. (Ed.), pp. 373-396, Springer, New York. Available at [link.springer.com/chapter/10.1007/978-3-319-41279-5\\_12](http://link.springer.com/chapter/10.1007/978-3-319-41279-5_12). Accessed 11/15/2016.

## Professional Communications

### *Presentations:*

- 1993      **Kirken, R.A.**, Howard, O.M.Z., and Farrar, W.L. Talk entitled “Comparative analysis of prolactin and IL-2 receptor-associated phosphotyrosyl proteins and tyrosine kinase activity in lymphocytes”. Neuroendocrinology VI International Prolactin Congress. (D 7): 21 1993, Paris, France, Plenary Lecture.
- 1993      **Kirken, R.A.** “IL2 activates a 116 kDa Tyrosine kinase”, Moffitt Cancer Institute, University of S. Florida, 1993.
- 1996      **Kirken, R.A.** Chaired International Meeting on Standardization and Calibration, of Cytokine Immunoassays. London, England, 1996.
- 1997      **Kirken, R. A.** Talk entitled “IL2-related cytokines: Jak3 and Stat5 signaling pathways”. Baylor College of Medicine, 1997.
- 1997      **Kirken, R.A.** Talk entitled “Signaling pathways mediated by IL-2 and related cytokines: Functional role of JAKs, STATs and MAP kinases. UT-Houston Medical School, December 18, 1997.
- 1997      **Kirken, R.A.** Talk entitled “Activation and regulation of a Stat5 serine kinase”. Invited Speaker: Uniformed Services University of Health Sciences, 1997.
- 1998      **Kirken, R.A.** Talk entitled “Signaling pathways mediated by IL2 and related cytokines: Role of JAKs, STATs and MAP Kinases in immune regulation”. November 9, 1998. M.D. Anderson, Houston, TX, November 9, 1998.
- 1999      **Kirken, R.A.** Talk entitled “Cytokine induced serine phosphorylation and regulation of Stat5a/b activity in lymphocytes”. National Cancer Institute Workshop: Serine/threonine phosphorylation in cytokine signaling. March 31,

1999. Plenary Lecture.
- 1999 **Kirken, R. A.**, Erwin-Cohen, R.A., Behbod, F., Wang, M., Ku, J., Stepkowski, S.M., Kahan, B.D. Talk entitled “Tyrphostin AG490 blocks activation of JAK3 and rejection of heart allografts in rats”. 25<sup>th</sup> Annual Scientific Meeting of the American Society of Transplant Surgeons. Chicago, Illinois, May 17, 1999.
- 1999 **Kirken, R.A.** The Woodlands Conference Center, TX. Talk entitled “Stat5a/b as Molecular Targets for Immune Suppression”. October 16, 1999.
- 2000 **Kirken, R.A.** UT-Shared Department of Integrative Biology and Pharmacology and Internal Medicine Seminar entitled “Stat5a/b Roles in cancer and organ rejection”.
- 2000 **Kirken, R.A.** Texas Medical Center. “Jak3 as a molecular target for controlling allograft rejection”. July 17, 2000.
- 2000 **Kirken, R.A.**, Erwin-Cohen, R., Behbod, F., Wang, M.E., Stepkowski, S.M., Kahan, B.D. Talk entitled “Tyrphostin B42 selectively inhibits activation of the JAK3/STAT5/MAPK pathway and rejection of heart allografts in rats”. XVIII International Congress of the Transplantation Society, Rome, Palazzo dei Congressi, August 27-September 1, 2000.
- 2001 **Kirken, R.A.** Talk entitled: “Roles for Jak3 and Stat5 in T cell Mediated Diseases”. Institute of Molecular Medicine, University of Texas-Houston. September 14, 2001.
- 2001 **Kirken, R.A.** Talk entitled, “New strategies to identify immunosuppressive drugs that act synergistically to prolong allograft survival”. University of Texas at Houston. January 14, 2002.
- 2001 **Kirken, R.A.** Talk entitled “T-cell signaling pathways”. Symposium Sixth International Conference on Tolerance Induction. Tucson, AZ, January 21, 2001. Plenary Lecture.
- 2001 **Kirken, R.A.**, Behbod, F., Erwin-Cohen, R., Kahan, B.D., Nagy, Z., Wang, M.E. Talk entitled “Concomitant inhibition of Jak3 and calcineurin-but not rapamycin-dependent signaling pathways synergistically prolong the survival of heart allografts”. 2001 A Transplant Odyssey, Istanbul Convention & Exhibition Center, Istanbul, Turkey, August 20–23, 2001. Plenary Lecture.
- 2002 **Kirken, R.A.** Talk entitled: “Transcription factor Stat5a/b: a novel target for regulating T cell activity and allograft rejection”. New Trends in Immune Suppression. Geneva, Switzerland, February 9, 2002. Plenary Lecture.
- 2002 **Kirken, R.A.** Talk entitled, “Jak3 and Stat5 as molecular targets for promoting allograft acceptance”. Horizons in Transplantation: From theory to Practice. Amelia Island, Florida, April 24, 2002. Plenary Lecture.

- 2002 **Kirken, R.A.** Talk entitled: “IL2 regulates the activation of multiple Raf isoforms (A, B and C) in primary human T-cells: Role of Rafs in T-cell growth and rat heart allograft survival”. American Society of Transplantation, Washington, D.C. April 28, 2002.
- 2002 **Kirken, R.A.** Talk entitled: “Roles for Jak3 and Stat5 in T cell Mediated Diseases”. University of Debrecen, Hungary, October 18, 2002.  
2002 Kirken, R.A. Talk entitled, “A Role for Jak3/Stat5a/b pathway in T cell-derived disease”. University of Texas at Houston Dental Branch. November 21, 2002.
- 2002 **Kirken, R.A.** Talk entitled “Specific Inactivation of the Common IL2 Receptor Gamma-Chain, and to a Lesser Extent Constitutively Active Stat3, Induces Apoptosis in a Human Lymphoma Cell Line”. American Society of Hematology, Philadelphia, PA, Dec. 6-10, 2002.
- 2003 **Kirken, R.A.** Talk entitled, “Stat5 regulation of T-cell activity”, University of Texas Health Science Center and the Department of Cardiology. October 5, 2003.
- 2003 **Kirken, R.A.** Talk entitled “Stat5a/b-regulation of T-cells and disease”. Texas Health Science Center, Division of Cardiology, Houston, TX, October 30, 2003.
- 2003 **Kirken, R.A.** Talk entitled “Stat5a/b: A target for regulating hematopoietic cancers”. M.D. Anderson Cancer Center, Department of Molecular Hematology and Therapy, Houston, TX, November 17, 2003.
- 2004 **Kirken, R.A.** Talk entitled “New candidates for Jak3 antagonism”. University of Texas Health Science Center, Division of Immunology, Houston, TX, March 26, 2004.
- 2004 **Kirken, R.A.** Talk entitled “New candidates for Jak3 antagonism”. University of Texas Health Science Center Summer Research Program, Houston, TX, June 7, 2004.
- 2005 **Kirken, R.A.** Talk entitled “So you want to make a drug?”. University of Texas Health Science Center, Houston, TX, February 18, 2005.
- 2005 **Kirken, R.A.** Talk entitled “Roles for Jak3 and Stat5 in T cell Mediated Diseases”. University of Texas El Paso, TX, April 1, 2005.
- 2005 **Kirken, R.A.** Talk entitled “NC1153 Biochemistry”. 28th Annual Divisional Retreat, The Division of Immunology and Organ Transplantation, UTHSC, April 21-23, 2005.
- 2008 **Kirken, R.A.** Talk entitled: “Career Opportunities in Biological Sciences” Seminar – NIH Sponsored Bridges Program.

- 2009 **Kirken, R.A.** Outreach Program-Talk entitled “Career Opportunities in Biological Sciences” Seminar –NIH Sponsored Bridges Program.
- 2010 **Kirken, R.A.** Talk entitled, “Signaling pathways and Cancer”, Southwest Association of Hispanic American Physicians. El Paso, TX January 19, 2010.
- 2011 **Kirken, R.A.** Talk entitled, “Jak3 as a Target of T-cell Mediated Diseases”. Clemson University, November 7, 2011.
- 2012 **Kirken, R.A.** Talk entitled, “New Concepts in cell Signaling and Treatment Strategies”, Southwest Association of Hispanic American Physicians. El Paso, TX November 2-3, 2012.
- 2013-present More than 10

### **Community Engagement**

- 2010 **Kirken, R.A.** Keynote Speaker to the El Paso Medical Society and its annual installation dinner. El Paso Club, El Paso, TX. January 13, 2010.
- 2010 **Kirken, R.A.** Outreach Presentation to Mesita Elementary School. “What is a Scientist?” El Paso, TX. January 25, 2010.
- 2010 **Kirken, R.A.** Keynote Speaker to the UTEP Centennial Commission. The University of Texas at El Paso. February 10, 2010.
- 2010 **Kirken, R.A.** Organize and present, Novartis Research Institute Visit, University of Texas at El Paso, March, 2, 2010.
- 2010 **Kirken, R.A.** Healthcare & Pharma: Needs, Limitations and Opportunities, University of Texas at El Paso, The Osher Lifelong Learning Institute, April 19, 2010.
- 2010 **Kirken, R.A.** Outreach Presentation to Mesita Elementary School. “Science is Fun!” El Paso, TX. December 17, 2010.
- 2011 **Kirken, R.A.** Keynote Speaker to the El Paso Rotary Club West Chapter. “Cancer”. El Paso, TX. August 29, 2011.
- 2011 **Kirken, R.A.** Outreach Presentation to Mesita Elementary School. “Science Fair Projects!” El Paso, TX. December 6, 2011.
- 2012 **Kirken, R.A.** Outreach to local schools to visit UTEP to support “Brain Awareness



Week”, March 26 and June 12, 2012.

2012 **Kirken, R.A.** Girl Scouts of America 100 Year Anniversary. “Future Scientists of America.” November 3, 2012.

2012-present **Kirken, R.A.** greater than 25 to various community groups and partners