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EDUCATION

- 1988-1991 **B.Sc. in Genetics**, University of the Witwatersrand, Johannesburg, South Africa
- 1992 **B.Sc. Honours in Genetics (First Class)**, University of the Witwatersrand, Johannesburg
- 1993-1997 **Ph.D. in Microbiology**, University of Cape Town, Cape Town, South Africa

ACADEMIC APPOINTMENTS

- 04/2014 – present **Executive Director**
Owensboro Cancer Research Program, a unit of the James Graham Brown Cancer Center, University of Louisville School of Medicine
- 01/2013 - present **Professor** (tenured)
Department of Pharmacology and Toxicology
University of Louisville School of Medicine
Louisville, Kentucky, USA
- 04/2006 – 12/2012 **Associate Professor**
Department of Pharmacology and Toxicology
University of Louisville School of Medicine
Louisville, Kentucky, USA
- 04/2006 – present **Senior Scientist**
James Graham Brown Cancer Center, University of Louisville
Louisville, Kentucky, USA

OTHER POSITIONS AND EMPLOYMENT

- 04/1997 – 09/1998 **Postdoctoral Research Associate**
Boyce Thompson Institute at Cornell University
Ithaca, New York, USA
- 10/1998 – 03/2003 **Senior Scientist**
Biosource Genetics Corporation, later Large Scale Biology Corporation
Vacaville, California, USA
- 04/2003 – 06/2006 **Director of Vaccine Research**

Large Scale Biology Corporation
Vacaville, California, USA

03/2006 – present **Managing Director**
Intrucept Biomedicine LLC
Owensboro, Kentucky, USA

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

1997 – present American Society for Microbiology, ordinary member
2009 – present International Society for Mucosal Immunology, ordinary member
2010 – present International Society for Papillomavirus Research, ordinary member

07/2006 – 06/2010 Member of the National Institutes of Health Vaccines Against Microbial Diseases (VMD) Study Section

HONORS AND AWARDS

Undergraduate Honors and Awards (Partial List)

03/1992 South African Breweries Gold Medal, awarded to the top Biological/Life Sciences B.Sc. graduate at the University of the Witwatersrand, Johannesburg

Graduate Study Honors and Awards (Partial List)

01/1993 African Explosives and Chemical Industries (AECI) Postgraduate Excellence Scholarship for 1993 – 1995 Academic years.

03/1993 South African Breweries Gold Medal, awarded to the top Biological/Life Sciences B.Sc. Honours graduate at the University of the Witwatersrand, Johannesburg

1995 – 1997 University of Cape Town Graduate Research Associateships – Supplemental Scholarships for academic excellence

1996 – 1997 South African Foundation for Research Development Postgraduate Fellowship

03/1997 Best Poster Prize in the Graduate Student Category, South African Biotechnology Conference, Grahamstown, South Africa

Post-Doctoral Honors and Awards

07/1997 Foundation for Research Development Postdoctoral Fellowship

Professional Honors and Awards

11/2009 University of Louisville Celebration of Faculty Excellence – recognition of intellectual property and inventions licenses

06/2010 National Institutes of Health Center for Scientific Review Certificate of Appreciation for service in peer review

05/2014 Kentucky Derby Mint Julep Ball Scientist of the Year award

COMMITTEE ASSIGNMENTS AND ADMINISTRATIVE SERVICES

National Committee Assignments

Chartered Membership of NIH Study Section

07/2006 – 06/2010 Member of NIH Center for Scientific Review Vaccines Against Microbial Diseases (VMD) Study Section

Membership of NIH Special Review Panels and Ad hoc Membership of NIH Study Sections

03/2004 AIDS Vaccines (VACC) Study Section
06/2004 Vaccines Against Microbial Diseases (VMD) Study Section *ad hoc*
10/2004 Vaccines Against Microbial Diseases (VMD) Study Section *ad hoc*
12/2004 NIAID Special Review Panel ZRG1 AARR-A (50) Cooperative Research Partnerships: Preclinical/clinical development of microbicides against HIV
01/2005 Vaccines Against Microbial Diseases (VMD) Study Section *ad hoc*
05/2005 Vaccines Against Microbial Diseases (VMD) Study Section *ad hoc*
10/2005 Vaccines Against Microbial Diseases (VMD) Study Section *ad hoc*
03/2006 AIDS Vaccines (VACC) Study Section *ad hoc*
11/2007 NIAID Special Review Panel ZAI1-Tp-M-J2 Cooperative Research Partnerships in Biodefense
03/2008 NIAID Special Review Panel ZAI1-MMT-A (m2) 1 –Microbicide Innovation Program III (MIP3)
09/2008 NIAID Special Review Panel ZAI-BLG-M-J1 Cooperative Research Partnerships in Biodefense
11/2008 NIAID Special Review Panel ZAI1-RB Microbicide Innovation Program IV (MIP4)
10/2009 NIH CSR Special Review Panel – AIDS Research Member Conflicts ZRG1 AARR-D (03) M
04/2011 NIAID Special Review Panel ZAI1-ESB-A (M2) 1 Integrated Preclinical-Clinical Program for HIV Topical Microbicides (IPCP-HTM)
04/2012 NIAID Special Review Panel ZAI1-ESB-A (M2) 1 Integrated Preclinical-Clinical Program for HIV Topical Microbicides (IPCP-HTM)
12/2013 NIAID Special Review Panel ZAI1-RB-A-J1 Mucosal Environment and HIV Prevention (MEHP)
07/2014 NIAID Special Review Panel ZRG1 AARR-K (52) R RFA Panel US-South Africa Collaborative Biomedical Research

International Grant Review Committee Assignments

2004 Israel – USA Binational Agricultural Research and Development Fund (BARD) grants reviewer
2008 Italian Ministry of Health Young Investigators AIDS Research grants reviewer

University Committee Assignments

02/2008 – present Member of the University of Louisville Institutional Biosafety Committee (IBC)
07/2012 – present Member of the University of Louisville School of Medicine Research Committee
07/2013 – present Chair of the University of Louisville School of Medicine Research Committee

Departmental Committee Assignments

10/2007 – 06/2008 Faculty search committee for Owensboro Cancer Research Program and Department of Pharmacology and Toxicology
08/2011 – 12/2011 Faculty search committee for Helmsley Charitable Trust Endowed Scholar in the Owensboro Cancer Research Program and James Graham Brown Cancer Center

01/2012 – 07/2014 Pharmacology and Toxicology Department Graduate Students Admissions Committee

Scientific Advisory Board Appointments

11/2006 Member of the Scientific Advisory Board of Bayer Innovation Group, Dusseldorf, Germany

EDUCATIONAL AND ACADEMIC ACTIVITIES

Supervision and Training of Graduate Students

1. **Amanda B. Lasnik, B.S. (UC Davis)**
Ph.D. Candidate (part-time) in Pharmacology and Toxicology, University of Louisville.
2007 – present
2. **Christopher L. Barton, B.S., M.S., J.D. (University of Louisville)**
PhD Candidate in Pharmacology and Toxicology, University of Louisville.
2009 – 2014
Ph.D. Candidate, graduation in Summer 2014

Supervision and Training of Postdoctoral Fellows

1. **Joseph Calvin Kouokam, Ph.D. (University of Saarland, Germany)**
June 2008 – present
2. **Joshua Fuqua, Ph.D. (University of Kentucky)**
February 2011 – present
3. **Bo Min Kim, Ph.D. (Hokkaido University)**
March 2011 – present

Mentoring of Junior Faculty

1. **Nichola C. Garbett, Ph.D. (University of Kent at Canterbury)**
Instructor in the Department of Medicine, University of Louisville
November 2011 – present
2. **Jill Steinbach, Ph.D. (Arizona State University)**
Assistant Professor in Bioengineering and Center for Predictive Medicine, University of Louisville
October 2013 – present

Mentoring of Medical Student Summer Research Projects

1. **Wendye Walter B.S. (Brandeis), University of Louisville M.D. Class of 2013**
2009 Summer Research Project Mentor.
Ms. Walter won 3rd Place at Research!Louisville for her poster presentation, and is an author on a paper that describes the research she performed in my laboratory (Kouokam, JC. et al. (2011) PLoS ONE)
2. **Abigail Augenstein B.S. (Kentucky), University of Louisville M.D. Class of 2016**
2012 Summer Research Project Mentor

Undergraduate and Pre-Professional/Graduate School Student Mentoring

1. **Nathaniel N. Waldron, B.S. (Kentucky Wesleyan College)**
Pre-Graduate School; March 2007 – July 2009
Ph.D. student in Pharmacology at the University of Minnesota, August 2009 – present
2. **Kyle V. Conway, B.S. (Kentucky Wesleyan College)**
Pre-Medical School; May 2008 – May 2009
M.D. student, Class of 2013, University of Louisville, August 2009 – present
3. **Andrew Johannemann, B.S. (Kentucky Wesleyan College)**
Pre-Medical School; March 2009 – July 2011
M.D. student, Class of 2015, University of Kentucky, August 2011 - present
4. **Stacy Webb, B.S. (Kentucky Wesleyan College)**
Pre-Graduate School; May 2009 – June 2011
IBS Ph.D. program in Biochemistry, University of Kentucky, August 2011 - present
5. **Vijay Maheshwari, undergraduate at the University of Louisville**
Pre-Dental School; summer research experience 2010
6. **Valentine Wanga, B.S. (Mount St. Joseph College, Cincinnati)**
Pre-Graduate School; October 2010 – August 2011
Ph.D. student in Biostatistics, Vanderbilt University, August 2011 – present
7. **Abbe Augenstein, undergraduate student in agricultural biotechnology, University of Kentucky**
Medicus Society Summer Intern in my laboratory; June – August 2011 and June – August 2012
Senior at University of Kentucky, accepted to University of Louisville Medical School, class of 2016.
8. **Marie Hensley, undergraduate student in Biomedical Engineering, University of Louisville**
Co-op position for credit towards her Bachelor's degree in Biomedical Engineering
Fall Semester 2011: August 2011 – December 2011

Service on Graduate Student Thesis and Dissertation Committees

1. **Lori Millner**
Ph.D. Committee Member (David W. Hein, Ph.D., Chair)
Department of Pharmacology and Toxicology
2009 – 2011 **Graduated Ph.D. in July 2011**
2. **Christopher L. Barton**
M.S. and Ph.D. Committee Chair
Department of Pharmacology and Toxicology
2009 – present **Graduated M.S. in July 2011; progressed to PhD candidacy, successful defense in June 2014, awaiting graduation**
3. **Amanda B. Lasnik**
M.S. and Ph.D. Committee Chair
Department of Pharmacology and Toxicology

2007 – present

4. **Richa Singhal**
Ph.D. Committee Member (David Schultz, Ph.D., Chair)
Department of Biology
2010 – present

5. **Carmine Leggett**
Ph.D. Committee Member (David W. Hein, Ph.D., Chair)
Department of Pharmacology and Toxicology
2010 – 2012 **Graduated Ph.D. in July 2012.**

6. **Su San Toh**
Ph.D. Committee Member (Michael Perlin, Ph.D., Chair)
Department of Biology
2011 – present

Ph.D. Thesis External Examination Activities for Foreign Universities

1. **Thomas O. Kohl, Ph.D.**
Department of Molecular and Cell Biology, University of Cape Town, 2005
Student's Ph.D. advisor: Edward P. Rybicki, Ph.D.
2. **Sharon Shih, Ph.D.**
School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, Australia, 2008.
Student's Ph.D. advisor: Pauline Doran, Ph.D.

Didactic Teaching Activities

1. **PHTX 675 – Research Methods Course in Pharmacology and Toxicology**
2007 – present
Lecture topics: (1) **IND-enabling toxicology studies**
Delivered in Spring 2007, Spring 2008 and Spring 2009
(2) **Viral vectors**
Delivered in Spring 2010, Spring 2011, Spring 2012, Spring 2013
(3) **Recombinant protein expression**
Delivered in Spring 2010, Spring 2011, Spring 2012, Spring 2013, Spring 2014
2. **M.D./Ph.D. Students Research Seminar**
Fall 2010: Invited seminar on Vaginal Microbicides for Prevention of HIV Transmission

GRANTS AND CONTRACTS

Current Grant Support

1. Funding Agency: National Institutes of Health/NIAID
Grant Number: 1U19AI113382-01
Grant Title: Griffithsin-based rectal microbicides for Prevention of Viral Entry (PREVENT)
Role: Program Director and Principal Investigator
60% effort, 75% collaboration
Funding Amount: \$14,703,126
Duration: July 1st, 2014 – June 30th, 2019
2. Funding Agency: University of Louisville School of Medicine
Grant Number: Bridge Grant
Grant Title: Griffithsin based microbicides for prevention of HIV transmission
Role: Principal Investigator
Funding Amount: \$30,000
Duration: March 1st, 2013 – December 31st, 2014
3. Funding Agency: National Institutes of Health/NIAID
Grant Number: R33 AI088585
Grant Title: Plant-produced Actinohivin as a Candidate HIV Microbicide
Role: Co-investigator (P.I.: Nobuyuki Matoba, Ph.D.); 5% collaboration
5% Effort
Funding Amount: \$1,175,000 total costs
Duration: June 1st, 2010 – May 31st, 2015
4. Funding Agency: Harry B and Leona M Helmsley Charitable Trust (Donald M. Miller, P.I.)
Grant Title: Pan-Oncogenic HPV vaccine
Role: Principal Investigator
28% effort
Funding Amount: \$370,000
Duration: March 1st 2014 – February 28th 2016
5. Funding Agency: National Institute of Environmental Health Sciences (David W. Hein, P.I.)
Grant Number: T32 ES011564
Grant Title: UofL Environmental Health Sciences Training Program
Role in Project: Co-Investigator (Faculty Mentor)
No budgeted % effort, 0% collaboration
Funding Amount: \$2,037,745 (total)
Duration: July 1, 2009 to June 30, 2014
6. Funding Agency: Department of Defense (D. Wilkerson, OMHS, P.I.)
Grant Number: USAMRMC W81XWH-09-2-0022
Grant Title: Development of Novel Vaccines and Therapeutics Using Plant-Based Expression Systems
Role in Project: Principal Investigator of subaward to UofL
5 % effort
Funding Amount: \$1,680,000 (total)

- Duration: March 15th, 2009 – March 14th, 2015
7. Funding Agency: Department of Defense (Donald Wilkerson, OMHS, P.I.)
 Grant Number: USAMRMC W81XWH-10-2-CLIN 1
 Grant Title: Plant-based expression systems for new vaccines and therapeutics
 Role in Project: Principal Investigator of Sub-Award to UofL
 10 % effort
 Funding Amount: \$1,751,000 (total)
 Duration: August 23rd, 2010 – August 22nd, 2015
8. Funding Agency: Department of Defense (Donald Wilkerson, OMHS, P.I.)
 Grant Number: USAMRMC W81XWH-10-2-CLIN 2
 Grant Title: Plant-based expression systems for new vaccines and therapeutics
 Role in Project: Principal Investigator of Sub-Project
 10 % effort
 Funding Amount: \$1,748,000 (total)
 Duration: September 30th, 2011 – September 29th, 2015

Completed Grant Support

1. Funding Agency: National Institutes of Health/NIAID
 Grant Number: R21 AI055346
 Grant Title: Display of HIV-1 epitopes on plant virus particles
 Role: Principal Investigator
 30% effort
 Funding amount: \$300,000 (direct costs)
 Duration: September 15th 2003 – August 31st, 2006
2. Funding Agency: Starpharma Ltd. (Melbourne, Australia)
 Grant Number: OICB081330 (UofL Office of Industry Contracts)
 Grant Title: Evaluation of viral entry-inhibitory activity of SPL7013 against human genital papillomavirus types
 Role: Principal Investigator
 5% effort
 Funding Amount: \$36,878 (total costs); \$27,750 (direct costs); \$9,158 (indirect costs)
 Duration: September 1st, 2008 – February 28th, 2009
3. Funding Agency: Advanced Cancer Therapeutics LLC
 Grant Number: OICB080771 (UofL Office of Industry Contracts)
 Grant Title: Product development research on plant-produced papillomavirus L2 vaccine OICB080771
 Role: Principal Investigator
 10% effort, 100% collaboration
 Funding Amount: \$198,533 (total costs); \$155,748 (direct costs); \$43,609 (indirect costs)
 Duration: October 1st, 2008 – June 16th, 2009
4. Funding Agency: James Graham Brown Cancer Center
 Grant Number: Pilot Grant
 Title: Cost-effective papillomavirus vaccines

- Role: Principal Investigator
No PI salary budgeted
- Funding Amount: \$50,000 (total costs)
5. Funding Agency: University of Louisville Senior Vice President for Research Office
Grant Number: Pilot Grant
Title: Broad spectrum antivirals against biodefense threats
Role: Principal Investigator
No PI salary budgeted
Funding Amount: \$20,000 (total costs)
6. Funding Agency: University of Louisville Executive Vice President for Research Office
Grant Number: Clinical and Translational Science Pilot Award; 20042 (UofL)
Grant Title: Selection of a Novel Pan-Oncogenic HPV Vaccine
Role: Principal Investigator
40% effort (not included in budget)
Funding Amount: \$200,000 (total); \$194,250 (direct costs); \$5,750 (indirect costs)
Duration: July 1st, 2010 – December 31st, 2011
9. Funding Agency: National Institutes of Health/NIAID
Grant Number: R01 AI076169 (NIH) / GB080235 (UofL)
Grant Title: Antiviral Lectins as Microbicides
Role: Principal Investigator; 100% collaboration
50% effort year 1 and 2; 20% effort year 3 and 4
Funding Amount: \$1,760,728 (total); \$1,225,924 (direct costs); \$530,705 (indirect costs)
Duration: April 15th, 2008 – December 31st, 2012
10. Funding Agency: National Institutes of Health/NIAID
Grant Number: R01 AI076169 Supplement (NIH) / GB080235S1 (UofL)
Grant Title: Antiviral Lectins as Microbicides
Role: Principal Investigator; 100% collaboration
20% effort
Funding Amount: \$522,561 (total); \$409,693 (direct costs); \$112,868 (indirect costs)
Duration: July 1st, 2010 – March 31st, 2012
11. Funding Agency: Harry B and Leona M Helmsley Charitable Trust (Donald M. Miller, P.I.)
Grant Title: Pan-Oncogenic HPV vaccine
Role: Sub-Project Principal Investigator
30% effort
Funding Amount: \$340,000
Duration: August 1st, 2011 – July 31st, 2013

PATENTS *(Only United States Patents and Patent Applications are listed; each has multiple corresponding international filings, with some international patents issued)*

1. US Patent **6,392,121**. Gemini virus vectors for gene expression in plants. Inventors: Mason HS, **Palmer KE**, Hefferon KL, Mor TS, Arntzen CJ. Assignee: Boyce Thompson Institute for Plant Research
2. US Patent **7,049,134**. Rolling circle replicon expression vectors. Inventors: **Palmer KE**, Pogue GP. Assignee: Large Scale Biology Corporation.
3. US Patent **7,432,079**. Plant virus coat fusion proteins with GDF8 epitopes and vaccines thereof. Inventors: Junker DE, Cochran MD, Smith ML, **Palmer KE**, Pogue GP. Assignee: Schering Plough Corporation
4. US Patent **7,939,318** Flexible vaccine assembly and vaccine delivery platform. Inventors: McCormick AA, Smith ML, **Palmer KE**, Lindbo JL, Nguyen L, Pogue GP. Assignee: Kentucky Bioprocessing Inc.
5. US Patent Application **20090053261**. Modified tobacco mosaic virus particles as scaffolds for display of protein antigens for vaccine applications. Inventors: **Palmer KE**, Lindbo JA, Smith ML. Assignee: University of Louisville Research Foundation.
6. US Patent Application **20080213293**. Prevention and treatment of recurrent respiratory papillomatosis. Inventors: **Palmer KE**, Reinl SJ, Tuse D, Smith ML, Pogue GP. Assignee: University of Louisville Research Foundation.
7. US Patent Application **20080160040**. Plant-produced compositions for treating papillomavirus infection and related methods. Inventors: Ghim SJ, Jenson AB, **Palmer KE**, Lasnik AB, Smith ML, Miller D. Assignee: University of Louisville Research Foundation.
8. US Patent Application **20060029612**. Prevention and treatment of recurrent respiratory papillomatosis. Inventors: **Palmer KE**, Reinl SJ, Tuse D, Smith ML, Pogue GP. Assignee: University of Louisville Research Foundation.
9. US Patent Application **PCT/US14/46893**. Compositions for mucosal delivery, useful for treating papillomavirus infections. Inventors: **Palmer KE**, Fuqua J, Matoba N. Assignee: University of Louisville Research Foundation.

EDITORIAL WORK

- 2010 - 2012 Editor, Plant Viral Vectors volume of *Current Topics in Microbiology and Immunology* (Springer Verlag, Heidelberg, Germany)
- 1997 – present *Ad hoc* manuscript review for a broad array of journals, including: *Archives of Virology*; *Biotechnology and Bioengineering*; *Journal of Antimicrobial Chemotherapy*; *Journal of Biological Chemistry*; *Journal of General Virology*; *Journal of Molecular Biology*; *Journal of Nanobiotechnology*; *Journal of Virology*; *Nature Biotechnology*; *Plant Physiology*; *PLoS ONE*; *Proceedings of the National Academy of Sciences of the USA*; *Trends in Biotechnology*; *Vaccine*; *Virology*; *Virology Journal*

PEER-REVIEWED PUBLICATIONS (Name of students/trainees is underlined)

Journal Articles

Original Research Articles

1. Berrie LC, **Palmer KE**, Rybicki EP, Hiyadat SH, Maxwell, DP, Rey MEC (1997). A new isolate of African cassava mosaic virus in South Africa. *African Journal of Root and Tuber Crops* **2**, 49-52.
2. Chen W, Lennox SJ, **Palmer KE**, Thomson JA (1998) Transformation of *Digitaria sanguinalis*: a model system for testing maize streak virus resistance in Poaceae. *Euphytica* **104**:25-31
3. Berrie LC, **Palmer KE**, Rybicki EP, Rey MEC (1998) Molecular characterization of a distinct South African cassava-infecting geminivirus. *Archives of Virology* **143**:2253-2260 PMID: 9856107
4. **Palmer KE**, Thomson JA, Rybicki EP (1999) Generation of maize cell lines containing autonomously replicating maize streak virus-based gene vectors. *Archives of Virology* **144**:1345-1360. PMID: 10481741
5. **Palmer KE**, Rybicki EP (2001) Investigation of the use of maize streak virus as an infectious gene vector. *Archives of Virology* **146**:1089-1104. PMID: 11504418
6. Fitzmaurice WP, Holzberg S, Lindbo JA, Padgett HS, **Palmer KE**, Wolfe G, Pogue GP (2002) Epigenetic modification of plants with systemic RNA viruses. *OMICS* **6**: 137-151. PMID: 12143960.
7. Mor TS, Moon YS, **Palmer KE**, Mason HS (2003) Geminivirus vectors for high level expression of foreign proteins in plant cells. *Biotechnology and Bioengineering* **81**:430-437. PMID: 12491528
8. Smith ML, Lindbo JA, Dillard-Telm S, Brosio P, Nguyen LV, McCormick AA, **Palmer KE** (2006) Modified Tobacco mosaic virus Particles as Scaffolds for Display of Protein Antigens for Vaccine Applications. *Virology* **348**:475-88. PMID: 16466765
9. **Palmer KE**, Benko A, Doucette SA, Cameron TI, McCulloch M, Hanley KM, Foster T, McCormick AA, Smith ML, Christensen ND (2006) Protection of rabbits against cutaneous and mucosal papillomavirus infection using recombinant tobacco mosaic virus containing L2 capsid epitopes. *Vaccine* **24**:5516-25. PMID: 16725236
10. Ziółkowska NE, O'Keefe BR, Mori T, Zhu C, Vojdani F, **Palmer KE**, McMahan JB, Wlodawer A (2006) Domain-swapped structure of an antiviral protein griffithsin elucidates a unique mode of carbohydrate binding. *Structure* **14**: 1127-35. PMID: 16843894
11. McCormick AA, Corbo T, Wykoff-Clary S, Nguyen LV, Smith ML, **Palmer KE**, Pogue GP (2006) TMV-peptide fusion vaccines induce T-cell mediated immune responses and tumor protection in two murine models. *Vaccine* **24**: 6414-23. PMID: 16860441
12. McCormick AA, Corbo T, Wykoff-Clary S, **Palmer KE**, Pogue GP (2006) Chemical conjugate TMV – Peptide bivalent vaccines improve cellular immunity and tumor protection. *Bioconjugate Chemistry* **17**: 1330-8. PMID: 16984144
13. Smith ML, Corbo T, Bernales J, Lindbo JA, Pogue GP, **Palmer KE**, McCormick AA (2007) Assembly of trans-encapsidated recombinant viral vectors engineered from Tobacco mosaic virus and Semliki-forest virus and their evaluation as immunogens. *Virology*. **358**(2):321-33. PMID: 17014881
14. Ziółkowska NE, Shenoy SR, O'Keefe BR, McMahan JB, **Palmer KE**, Dwek R, Wormald MR, Wlodawer A (2007) Crystallographic, thermodynamic, and molecular modeling studies of the mode of binding of oligosaccharides to the potent antiviral protein griffithsin. *Proteins* **67**(3):661-70. PMID: 17340634

15. Willment JA, Martin DP, **Palmer KE**, Schnippenkoetter WH, Shepherd DN, Rybicki EP (2007) Identification of long intergenic region sequences involved in Maize streak virus replication. *Journal of General Virology*. 88: 1831-41. PMID: 17485545
16. Emau P, Tian B, O'Keefe BR, Mori T, McMahan JB, **Palmer KE**, Jiang Y, Bekele G, Tsai CC (2007) Griffithsin, a potent HIV entry inhibitor, is an excellent candidate for anti-HIV microbicide. *Journal of Medical Primatology* **36**: 244-253. PMID:17669213
17. van der Walt E, **Palmer KE**, Martin DP, Rybicki EP (2008) Viable chimaeric viruses confirm the biological importance of sequence specific Maize streak virus movement protein and coat protein interactions. *Virology Journal* 5: 61. PMID: 18489800
18. O'Keefe BR, Vojdani F, Buffa V, Shattock RJ, Montefiori DC, Bakke J, Mirsalis J, d'Andrea AL, Hume SD, Bratcher B, Saucedo CJ, McMahan JB, Pogue GP & **Palmer KE** (2009) Scaleable manufacture of HIV entry inhibitor Griffithsin and validation of its safety and efficacy as a topical microbicide component. *Proceedings of the National Academy of Sciences of the USA* **106**: 6099-104. PMID: 19332801
19. O'Keefe BR, Giomarelli B, Barnard DL, Shenoy SR, Chan PK, McMahan JB, **Palmer KE**, Barnett BW, Meyerholz DK, Wohlford-Lenane CL, McCray PB Jr. (2010). Broad spectrum *in vitro* activity and *in vivo* efficacy of antiviral protein Griffithsin against emerging viruses of the family *Coronaviridae*. *Journal of Virology* **84**(5):2511-21. PMID: 20032190
20. Pogue GP, Vojdani F, **Palmer KE**, Hiatt E, Hume S, Phelps J, Long L, Bohorova N, Kim D, Pauly M, Velasco J, Whaley K, Zeitlin L, Garger SJ, White E, Pai Y, Haydon H, Bratcher B (2010) Production of pharmaceutical-grade recombinant aprotinin and a monoclonal antibody product using plant-based transient expression systems. *Plant Biotechnology Journal* **8**: 638-54. PMID: 20514694
21. Tanzer FL, Shephard EG, Burger M, **Palmer KE**, Williamson A-L, Rybicki EP (2011) The Porcine circovirus type 1 capsid gene promoter improves antigen expression and immunogenicity in a HIV-1 plasmid vaccine. *Virology Journal* **8**(1): 51. PMID: 21299896
22. Férir G, **Palmer KE**, Shols D (2011) Synergistic activity profile of griffithsin in combination with tenofovir, maraviroc and enfuvirtide against HIV-1 clade C. *Virology* **417**(2):253-8. PMID: 21802104
23. Koukam JC, Huskens D, Shols D, Johannemann A, Riedell SK, Walter W, Walker JM, Matoba N, O'Keefe BR, **Palmer KE** (2011) Investigation of Griffithsin's interactions with human cells confirms its outstanding safety and efficacy profile as a microbicide candidate. *PLoS ONE* **6**(8):e22635. PMID: 21829638
24. Meuleman P, Albecka A, Belouzard S, Vercauteren K, Verhoye L, Wychowski C, Leroux-Rosels G, **Palmer KE**, Dubuisson J (2011) Griffithsin has antiviral activity against hepatitis C virus. *Antimicrobial Agents and Chemotherapy* **55**: 5159-67. PMID 21896910
25. Jagu S, Malandro N, Kwak K, Yuan H, Schlegel R, **Palmer KE**, Huh WK, Campo MS, Roden RBS (2011) A multimeric L2 vaccine for prevention of animal papillomavirus infections. *Virology* **420**: 43-50. PMID: 21920572
26. Banerjee K, Michael E, Eggink D, van Monfort T, Lasnik AB, **Palmer KE**, Sanders RW, Moore JP, Klasse PJ (2012) Occluding the mannose moieties on human immunodeficiency virus type 1 gp120 with griffithsin improves the antibody response to both proteins in mice. *AIDS Research and Human Retroviruses* **28**(2): 206-14. PMID: 21793733
27. Férir G, Huskens D, **Palmer KE**, Boudreaux DM, Swanson MD, Markovitz DM, Balzarini J, Schols D (2012) Combinations of griffithsin with other carbohydrate-binding agents demonstrate superior activity against HIV Type 1, HIV Type 2, and selected carbohydrate-binding agent-resistant HIV Type 1 strains. *AIDS Research and Human Retroviruses* **28**(11): 1513-23. PMID: 22607556

28. Férir G, **Palmer KE**, Schols D (2012) Griffithsin, alone and combined with all classes of antiretroviral drugs, potently inhibits HIV cell-cell transmission and destruction of CD4+ T cells. *Journal of Antivirals & Antiretrovirals* **4**: 103-112. Doi: 10.4172/jaa.10000054
29. Hamorsky KT, Grooms-Williams TW, Husk AS, Bennett LJ, **Palmer KE**, Matoba N (2013). Efficient single tobamovirus vector-based bioproduction of broadly neutralizing anti-HIV-1 monoclonal antibody VRC01 in *Nicotiana benthamiana* plants and utility of VRC01 in combination microbicides. *Antimicrobial Agents and Chemotherapy* **57**(5):2076-86 PMID: 23403432
30. Nixon B, Stefanidou M, Mesquita PM, Fakioglu E, Segarra T, Rohan L, Halford W, **Palmer KE**, Herold BC (2013). Griffithsin prevents genital herpes in mice by preventing cell to cell spread. *Journal of Virology* **87**(11):6257-69. PMID: 23536670
31. Barton C, Kouokam JC, Lasnik AB, Foreman O, Cambon A, Brock G, Montefiori DC, Vojdani F, McCormick AA, O'Keefe BR, **Palmer KE** (2014) Activity of and effect of subcutaneous treatment with the broad-spectrum antiviral lectin griffithsin in two laboratory rodent models. *Antimicrobial Agents and Chemotherapy* **58**(1): 120-127.

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