**CURRICULUM VITAE**

1. **PERSONAL DATA**

Michael W. Graner, PhD

Professor, Department of Neurosurgery

University of Colorado Denver, Anschutz Medical Campus

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12700 East 19th Avenue

Aurora, Colorado 80045

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**2. EDUCATION**

1981-1985 Illinois College (Biology and English) BA

1985-1988 University of Illinois (Biochemistry) MS

1988-1993 University of Illinois (Biochemistry) PhD

*Department of Biochemistry, Tim Karr, Advisor*

**3. ACADEMIC APPOINTMENTS**

2020-present Professor of Research, Dept of Neurosurgery, University of Colorado, Anschutz Medical Campus

2010-2019 Associate Professor, Dept. of Neurosurgery, Univ. of CO Denver

2009-2010 Visiting Associate Professor, Dept. of Neurosurgery, Univ. of CO Denver,

2004-2008 Associate Professor Track V, Preston Robert Tisch Brain Tumor Center, Depts. of Pathology and Surgery, Duke Univ. Medical Center, Durham, NC

2003-2004 Research Assistant Professor, Univ. of Arizona, Pediatrics

1999-2003 Assistant Research Scientist, Univ. of Arizona, Pediatrics

1997-1999 Post-doctoral Research Associate with Dr. Emmanuel Katsanis, Univ. of Arizona Pediatrics

1995-1997 University of Arizona Cancer Center/NIH Research Fellow

1994-1997 Post-doctoral Research Associate with Dr. Danny Brower, Univ. of Arizona, Molecular and Cellular Biology Dept.

1994 Instructor/Laboratory Coordinator, MCB 473, “Recombinant DNA Techniques”

1994 Visiting Scholar, Univ. of Arizona

1992-1993 Confocal Microscope Technician, Assistant to Bridget Carragher, Director of the Beckman Institute's Optical Visualization Facility, Univ of Illinois

1986-1993 Graduate Teaching and Research. Asst., Dept. of Biochemistry, Univ. of Illinois

1985-1988 Graduate Teaching and Research Assistant, School of Chemical Sciences, Univ. of Illinois

1986-1988 Graduate Teaching and Research Assistant, School of Chemical Sciences, Univ. of Illinois, Served as Czar

**4. PROFESSIONAL ACTIVITIES**

2022 **Science and Medicine Advisory Board** BioQuick News

2014 **News Feature** Aurora Channel 8 Feature Store: Star the Wonder Dog <https://www.youtube.com/watch?v=vp-X5MEoPMw&feature=youtu.be>

Our efforts to treat cancer patients with the CRCL vaccines had an unexpected patient in my own dog, Star.

2014 **LITeS (Leadership Innovation in Team Science) Training Program**, UC Denver CCTSI training and consultation; members are invited from a pool of nominated applicants

2014 **News Feature** University of Colorado Cancer Center Blog “After Great Dane Success, Cancer Doc Eyes Brain Tumors” <http://www.coloradocancerblogs.org/after-great-dane-success-cancer-doc-eyes-brain-tumors/> This was reposted in Science Daily, Men’s Health Online, and in the International Brain Tumor Association newsletter.

2010 **Guest Professor** of the Shenzhen-Hong Kong Institute of Infectious Diseases and The Shenzhen Institute of Hepatology of The Shenzhen Third People’s Hospital

2010 **News Feature** University of Colorado Hospital/UCH insider (May 2010) “Strategy would use tumors to fight tumors”

2011 **Adjunct Professor** Colorado State University of Cell and Molecular Biology (Cancer Biology Focus)

2004 **News Feature** Arizona Daily Star, 04.26.2004 “2 Rio Rico High students tops at S. Ariz. science fair”. Two high school students I mentored placed first at the Southern Arizona Regional Science and Engineering Fair with their chemistry class project, winning a trip to the Intel International Science and Engineering Fair in Portland, OR.

**5. HONORS AND AWARDS**

1985 Graduated Phi Beta Kappa; Summa Cum Laude from Illinois College

1985 Academic All American, Track and Field, Illinois College

1985-1988 Placed on University of Illinois "Incomplete List of Excellent Teaching Assistants"

1989 Recipient of Chemistry Department's Outstanding Teaching Assistant Award

1990 Recipient of Monsanto Travel Award

1991 Recipient of University of Illinois Biotechnology Center Travel Grant

2001 Michael Landon Award, University of Arizona

2006 Recipient of Illinois College’s Distinguished Alumni Service Award

2006 Duke University Brain Tumor SPORE Career Development Award

2015 Guest Speaker, Phi Beta Kappa Annual Banquet, Illinois College Epsilon Chapter

2016 Chosen ICHO “Best Presentation” by Session Chairs, Intl Cong Hypertherm Onc

2018 Elected FELLOW of the Cell Stress Society International

**6. MEMBERSHIP AND OFFICES IN PROFESSIONAL ORGANIZATIONS**

Offices Held

2015-2019 Co-Director of Society Affairs, American Society of Exosomes and Microvesicles

**2011-2013 Counselor, Cell Biology**, elected to the Board of the Society for Thermal Medicine

**2012-2013 Counselor and Governing Board Member**, Biology and Chemistry, Society for Thermal Medicine

**2016-2020 Vice President-Elect, Society for Thermal Medicine** (this is a 4-year term beginning with VP-Elect, then President-Elect, then President, then Past President)

**2017-2018 Vice President/Prez-Elect, Society for Thermal Medicine**

**2018-2019 President, Society for Thermal Medicine**

**2018 Fellow, Cell Stress Society International**

**2019-2021 Immediate Past President (continuing), Society for Thermal Medicine**

Member, STM Executive Council

Member, STM Finance Committee

**2020-2021 Founding member, American Society for Intercellular Communication (ASIC)**

Current Member

American Society for Intercellular Communication – **Founding Member**

International Society for Extracellular Vesicles - **Founding Member**

Cell Stress Society International

Society for Thermal Medicine

American Society of Exosomes and Microvesicles – **Charter Member**

European Society for Cancer Immunology and Immunotherapy

University of Colorado Cancer Center, Developmental Therapeutics

University of Colorado MAVRC Program

University of Colorado Denver CCTSI Program

American Association for Cancer Research

GLASS Consortium, Liquid Biopsy Section

American Heart Association

Former Member

University of Arizona Comprehensive Cancer Center

Society for Neuro-Oncology

Society for Neuroscience

Duke University Comprehensive Cancer Center

Neuro-Oncology Program and Immunobiology Program at Duke CCC

**7. MAJOR COMMITTEE AND SERVICE RESPONSIBILITIES**

Local

2006 2nd Aspen Conference on Brain Tumor Immunotherapy, course co-director and cession chair

2007 3rd Aspen Conference on Brain Tumor Immunotherapy, course co-director and session Chair

2009 4th Aspen Conference on Brain Tumor Immunotherapy, course co-director and session chair

2010- Neuro-Oncology Journal Club, University of Colorado Denver, director

2011(Mar) Colorado Vaccine Summit (COVAX), co-organizer and speaker

2011(Nov) Colorado Vaccine Summit (COVAX), co-organizer and presenter

2011 5th Aspen Conference on Brain Tumor Immunotherapy, course co-director and session chair

2011 International ExoExpo in FoCo, co-organizer and speaker

2012 International ExoExpo in Auroro [sic], co-organizer and speaker

2013 Neurosurgery Research Day, for University of Colorado Boulder undergrads, co-coordinator (with Tim Ung, MS3)

2014 International ExoExpo in Auroro [sic], organizer and chair

National

2011 1st Annual Exosomes and Microvesicles Conference, Orlando, FL, session chair and speaker

2012 2nd Annual Exosomes and Microvesicles Conference, Orlando, FL, co-organizer, chair and invited speaker

2013 3rd American Society of Exosomes and Microvesicles (ASEMV), Orlando, FL, co-organizer, chair and invited speaker

2014 4th American Society of Exosomes and Microvesicles (ASEMV), Asilomar, CA, co-organizer, chair, and invited speaker

2015 5th American Society of Exosomes and Microvesicles (ASEMV), Marco Island, FL; co-organizer, introductory speaker, chair, and invited speaker

2016 Co-organizer, session chair, presenter 6th American Society of Exosomes and Microvesicles (ASEMV), Asilomar, CA

2016 VIIIth Annual Cell Stress Society International Meeting, Old Towne/Alexandria VA, session chair

2017 Co-organizer, session chair, presenter 7th American Society of Exosomes and Microvesicles (ASEMV), Asilomar, CA

2018 Co-organizer, 8th American Society of Exosomes and Microvesicles (ASEMV), Baltimore, MD, USA

2018 Co-chair of ASEMV Working Groups

2019 Co-organizer, session chair, presenter, 9th American Society of Exosomes and Microvesicles (ASEMV), Asilomar, CA

2019 Co-organizer, ASEMV Technology Working Group Workshop, Asilomar, CA

2020 Co-organizer, sessions chair, 10th Annual American Society of Exosomes and Microvesicles (ASEMV2020); virtual meeting

2021 Organizing committee, session chair, 1st American Society for Intercellular Communication (ASIC 2021), Potomac, Maryland

2022 Organizing committee, 2nd American Society for Intercellular Communication (ASIC 2022), Potomac, Maryland

International

2011 Society for Thermal Medicine Meetings, session chair and speaker

2012 Society for Thermal Medicine Meetings, session chair and speaker

2013 Society for Thermal Medicine Meetings, session chair and speaker

2014 Society for Thermal Medicine Meetings, session chair and speaker

2015 International Society for Extracellular Vesicles, Washington DC, Co-chair of Poster Session and invited speaker

2016 International Society for Extracellular Vesicles, Rotterdam, Netherlands. Invited speaker for Education Day; proffered speaker; session chair

2017 Program Committee member, Refresher Workshop speaker, Session Organizer and Chair, Invited Speaker, Society for Thermal Medicine

2017 International Society for Extracellular Vesicles, Toronto, Canada, Co-chair of Poster Session and invited speaker

2018 Program Chair (and eventual President), 35th Society for Thermal Medicine. Program Chair, Session Chair, Presenter.

2019 Program Committee (as STM President), 36th Society for Thermal Medicine Conference. Session Chair, Invited Presenter

2020 Conference co-Chair, SelectBIO Conference; Circulating Biomarkers World Congress 2020; EV-based Diagnostics, Delivery & Therapeutics; Extracellular Vesicles and Stem Cells Summit 2020. Coronado Island, San Diego, CA, USA, Feb 2020

2021 Conference Co-Chair and Organizer, SelectBIO Conference; Circulating Biomarkers 2021 Extracellular Vesicles (EV)-Exosomes: Diagnostics, Delivery and Therapeutics Virtual Conference, Feb 2021 San Diego CA, USA

2021 International Society for Extracellular Vesicles, (virtual); Co-chair of Poster Session, May 2021

2021 Chair and Presenter, Global Cancer Consortium Minisymposium, Extracellular Vesicles in Cancer, Oct 2021

2021 Conference Co-Chair and Organizer, SelectBIO Conference; Extracellular Vesicles (EVs): Technologies & Biological Investigations, Dec 2021, San Diego CA, USA

2022 Program Committee (as Past President), 37th Society for Thermal Medicine Conference. Session Chair. Invited presenter. Virtual Event. March 2022

2022 Conference Co-Chair and Organizer, SelectBIO Conference; Extracellular Vesicles 2022: Biology, Disease, and Medicine. Sept 2022, Seattle WA, USA

2022 Conference Co-Chair, Organizer, and Invited presenter. SelectBIO Conference; Extracellular Vesicles 2022: Technologies Driving Biological Investigations. Dec 2022, Long Beach CA, USA.

**Workshop/Panel Host or Member**

2019 International Society for Extracellular Vesicles (ISEV) Workshop panel member, “EV targeting to cells and tissues”; Feb 2019

2020 International Society for Extracellular Vesicles (ISEV) Annual Meeting (virtual), panel member, “What do EVs do?”; July 2020

2020 International Society for Extracellular Vesicles (ISEV) Annual Meeting (virtual), panel member, “Emerging Trends in EV Research in HIV, NeuroAIDS & Drug Abuse”; July 2020

2020 HOST: “ISEV Current EVents - EVs in a Pandemic: Roles for extracellular vesicles in COVID-19”; Aug 2020

2020 HOST: STM Virtual Min-Symposium, “Externalized Stress Balls: Exosomes, Stress, and the Extracellular Space” Aug 2020.

2021 International Society for Extracellular Vesicles (virtual); Panel Member, International EV Agencies, May 2021

**Departmental and School of Medicine Committees**

2017 -- Neurosurgery Promotion and Tenure Reviewer

2022 Interviews for SOM Resident Physician Scientist Training Program

**8. LICENSURE AND BOARD CERTIFICATION**

Not Applicable

**9.** **INVENTIONS, INTELLECTUAL PROPERTY AND PATENTS HELD**

2005 **Patent Awarded** by U.S. Patent and Trademark Office to University of Arizona: “Methods of Recovering Chaperone Proteins and ComplexesThereof: M.W. Graner and E. Katsanis, inventors. Patent No.: US 6,875,849.

2019 Patent Application Filed, No. 2848-318-PCT; Entitled “FUNCTIONALIZED NANOPARTICLE FORMULATIONS FOR ORAL DRUG DELIVERY". J Betker, B Angle, MW Graner, TJ Anchordoquy, inventors.

2019 Invention Disclosure: Title: Biomarkers for Extracellular Vesicles/Exosomes/Microvesicles CU Innovations File No. CU4880H

Inventor(s): Michael Graner, Xiaoli Yu

2021 Provisional patent filed, “IgG1, IgG3 blood markers for multiple sclerosis”, Xiaoli Yu, Michael Graner, Wenbo Zhou, inventors

2022 U.S. Provisional Patent Application Filed, “Multiple sclerosis serum IgG antibodies produce complement-dependent apoptosis and necrosis in neuronal cells and brain tissues”. Application No. 63/344,818; CU Ref.: CU5655H-PPA2

Xiaoli Yu, Wenbo Zhou, Michael Graner, inventors.

US Provisional Patent Application Filed, “Rapid Activation of Neuroinflammation in Stroke: Plasma and Extracellular Vesicles Obtained on a Mobile Stroke Unit”. Application # 63/382,374; Attorney Docket # P305852.US.01. Robert Kowalski, Michael Graner, inventors.

**10. REVIEW AND REFEREE WORK**

1. **Editorial Boards**

* Immunology, Endocrine & Metabolic Agents in Medicinal Chemistry (former)
* Journal of Cancer Research (defunct)
* ScienceMatters (Handling Editor)
* Extracellular Vesicles and Circulating Nucleic Acids, Associate Editor
* Special Issue Editor, "The Immunology and Biology of Brain Tumors", Journal of Clinical Medicine
* Special Issue Editor, "Clinical Significance of Extracellular Vesicles in Brain Tumors", Journal of Clinical Medicine
* Special Issue Editor, “Blood-Based Biomarkers in Acute Ischemic Stroke and Hemorrhagic Stroke”; Section: Stroke; Frontiers in Neurology

1. **Ad Hoc Referee**
   * Journal of Medicinal Chemistry
   * International Journal of Cancer\*
   * Cancer Research\*\*
   * Journal of Proteome Research\*
   * Oncogene
   * Neuro-Oncology\*
   * Cancer Immunology, Immunotherapy\*
   * European Journal of Immunology
   * Biotechnology Progress
   * Clinical Cancer Research\*
   * Glia
   * Expert Opinion on Biological Therapy\*
   * Tohoku Journal of Experimental Medicine
   * Frontiers in Bioscience
   * Expert Review of Vaccines\*
   * Journal of Neuroscience\*\*
   * International Journal of Medicine and Medical Science\*
   * Immunology, Endocrine & Metabolic Agents in Medicinal Chemistry\*
   * The Protein Journal; Biomarkers in Cancer
   * Molecular and Cellular Proteomics
   * Journal of Translational Medicine
   * PLoS ONE\*\*
   * Current Cancer Drug Targets\*
   * International Journal of Hyperthermia\*\*
   * Scientific Reports\*
   * Frontiers in Membrane Physiology and Biophysics
   * Molecular Therapy-Nucleic Acids
   * Clinical Oncology and Cancer Research
   * European Journal of Cancer
   * Future Oncology\*
   * Cell Stress and Chaperones\*\*\*\*
   * European Journal of Histochemistry
   * Veterinary and Comparative Oncology\*
   * Chinese Science Bulletin
   * Molecular Cancer
   * DNA and Cell Biology
   * Cancer Cell International
   * Journal of Immunotherapy\*
   * Immunotherapy\*
   * Vaccine\*
   * Autophagy
   * Drug Discovery Today\*
   * Clinical Chemistry\*
   * Bioconjugate Journal
   * Philosophical Transactions of the Royal Society B
   * Communicative & Integrative Biology
   * Current Pharmacogenomics and Personalized Medicine
   * BBA Molecular Cell Research\*
   * Obesity Reviews\*
   * OncoTargets and Therapy
   * Translational Oncology\*
   * The Prostate
   * Marine Drugs
   * eBook 49 Protein Misfolding Diseases and Targets
   * Future Science OA
   * ScienceMatters
   * Cellular and Molecular Neurobiology\*
   * BMC Cancer
   * Biomarkers in Cancer
   * Journal of Neurooncology
   * METHODS
   * Oncotarget\*
   * Archivum Immunologiae et Therapiae Experimentalis
   * Expert Review of Molecular Diagnostics
   * PROTEOMICS – Clinical Applications
   * Trends in Endocrinology and Metabolism
   * Expert Review of Anticancer Therapy
   * Trends in Cancer
   * Scandinavian Journal of Immunology\*
   * British Journal of Cancer
   * Expert Opinions on Pharmacotherapy\*
   * Diagnostic and Therapeutic Applications of Exosomes in Cancer
   * Journal of Extracellular Vesicles (JEV)\*\*
   * WIREs Nanomedicine & Nanobiotechnology
   * OncoImmunology\*
   * Cancer Microenvironment
   * Journal of Neurosurgery
   * Biochemistry and Biophysics Reports
   * Nanoscale
   * Science Translational Medicine
   * ACS Nano
   * International Journal of Molecular Sciences
   * The Protein Journal (Journal of Protein Chemistry)
   * Human Vaccines & Immunotherapeutics
   * Molecular Neurobiology
   * Cell Death & Disease\*
   * BBA-Reviews on Cancer
   * Proteomics
   * Expert Review of Molecular Diagnostics
   * EBioMedicine\*
   * Journal of Cancer Treatment and Diagnosis
   * Theranostics\*
   * Journal of Vaccinology
   * Journal of Clinical Medicine\* (and acting special edition editor)
   * Frontiers in Molecular Neuroscience
   * Journal of Hematology & Oncology
   * Journal of Neuroinflammation
   * Journal of Experimental & Clinical Cancer Research
   * Advanced Science
   * Cell Reports
   * European Journal of Pharmaceutics and Biopharmaceutics\*
   * Molecular Therapeutics
   * Carcinogenesis
   * Journal of Cell Science
   * Current Drug Targets
   * Cell Chemical Biology\*
   * Methods in Enzymology
   * iScience\*
   * Journal of Cancer Metastasis and Treatment
   * Molecular Biology Reports
   * Advanced Biosystems
   * Trends in Neurosciences
   * Cancer Drug Resistance
   * Cancer Communications
   * Frontiers in Neurology
   * Small
   * The Cerebellum
   * Frontiers in Bioscience-Landmark
   * Extracellular Vesicles and Circulating Nucleic Acids
   * Stroke
   * Clinical and Translational Medicine
   * STEM CELLS Translational Medicine
   * Journal for the ImmunoTherapy of Cancer
   * eNeuro
   * Frontiers in Cell and Developmental Biology
   * Membranes

(\* = multiple reviews; \*\* = many reviews; \*\*\*\* = many, many reviews)

1. **Study Sections for Grant Reviews**

Standing Grant Reviewer

* American Brain Tumor Association (Previous)
* University of Colorado/UCCC ACS IRG Seed Grants (aka, O’Hara grants)
* Cancer League of Colorado

Ad Hoc Grant Reviewer

* Brain Tumor Society (now National Brain Tumor Society)
* Atlantic Canada Opportunities Agency/Atlantic Innovation Fund
* Alberta Prion Research Institute
* Samantha Dickson Brain Tumour Trust
* Netherlands Organization for Scientific Research
* Irish Clinical Oncology Research Group
* Arizona Biomedical Research Commission
* Colorado Translational Research Imaging Center (C-TRIC) at UC Denver Pilot Study
* French National Research Agency (L’ANR)
* Ireland Health Research Board
* Qatar National Research Fund
* Netherlands Organization for Scientific Research (NWO)
* Research Grants Council (RGC) of Hong Kong
* Medical Research Council, Great Britain
* NIH/NCI Omnibus SEP-8 ZCA1 RTRB-8(J1)
* NCI Subcommittee J—Career Development
* NCI Omnibus ZCA1 SRB-C(M3)S
* Israel Science Foundation
* Austrian Science Fund
* NCI ZCA 1SRB-J J1S R03R21
* NCI ZCA1 TCRB-Q (C1) Purification of Cancer Cell Extracellular Vesicles
* University of Washington Cystic Fibrosis Research Translation Center P30 Pilot and Feasibility Program
* Biotechnology and Biological Sciences Research Council, UK (EV Biology)
* Biotechnology and Biological Sciences Research Council, UK (EV Sciences)
* Medical Research Council, UK (MolCell Med Board, Cell Biol)
* NCI ZCA1 SRB-L (J2)S
* Biotechnology and Biological Sciences Research Council, UK (EV Biol/Biotech)
* Colorado Clinical and Translational Sciences Institute Novel Clinical and Translational Methods Phase I Pilot Funding
* Fondation Pour La Recherche Medicale (FRM); “Equipes FRM” (France)
* NIH/NCI SBIR PHS2017 359
* Children’s Cancer and Leukemia Group (UK)
* Brain Research Trust (UK)
* NCI Canine Immunotherapy Trials 2017/08 ZCA1 RTRB-C (A1)
* Colorado Clinical and Translational Sciences Institute Pre-K Proposals
* Brain Research UK
* Cancer Research UK
* NIH ZRG1 CB-D (71) R
* NIH/NCI SBIR Topic 344 & 359
* Wellcome Trust India Alliance DBT
* NIH Director’s New Innovator Award (DP2) 2020/05 ZRG1 MOSS-R (70)R
* American Brain Tumor Association (ABTA) Basic Research Fellowship
* Graduate Women in Science (GWIS) National Fellowship Program
* NIH Special Emphasis Panel ZRG1 BDCN-W(03) 2020
* NIH Director’s New Innovator Award (DP2) 2021/05 ZRG1 CVRS-A (70) S
* Deutsch-Israelische Projektkooperation (DIP) – German-Israeli Project Cooperation
* NIH Special Emphasis Panel ZRG1 BDCN-W(03) 2021
* NIH ZRG1 ETTN-H (11) - Small Business panel on Drug Discovery for Aging, Neuropsychiatric and Neurologic Disorders.
* Colorado Clinical and Translational Sciences Institute (CCTSI) K to R Grant Reviews
* NIH ZRG1 ETTN-H (11)B - Small Business panel on Drug Discovery for Aging, Neuropsychiatric and Neurologic Disorders
* American Brain Tumor Association (ABTA) 2022 Jack & Fay Netchin Medical Student Summer Fellowships Review Panel
* Trinity St. James’s Cancer Institute Cancer Research Stimulus Awards (TSJCI Crest Awards) (Ireland)
* NIH ZCA1 RPRB-N (O1) S, NCI Program Project (P01) SEP-1
* Academia Sinica Investigator Award 2023, Taiwan

**11. RESEARCH SEMINARS, LECTURES, PRESENTATIONS, AND POSTERS**

Research Lectures

1. "Multiple Epitopes of a Novel Sperm-Egg Proteoglycan in Drosophila". Oral presentation, National Drosophila Research Conference, Philadelphia, 1992.
2. “Hot, Shocking Cancer Vaccines”, Oral presentation, Immunotherapy of Cancer Workshop, Tucson, AZ, 2000.
3. “Heat Shock Proteins as Cancer Vaccines”, Oral presentation, U of A Dept. of Pediatrics Research Conference, Tucson, AZ, 2000.
4. “A ‘Trojan Horse’ in the Anti-Cancer Vaccine: Is Serum Albumin Transporting TGF-?” Oral presentation, Immunotherapy of Cancer Workshop, Tucson, AZ, 2001.
5. “Multiple Chaperone Protein Complexes (MCC) as anti-cancer vaccines”, Oral presentation, Joint AZCC/Mayo Clinic Symposium, Scottsdale AZ, 2002.
6. Chaperone-rich cell lysates: adjuvant, antigen, and applicability in an anti-cancer vaccine. Oral presentation. 1st International Congress on Stress Responses in Biology and Medicine, Quebec City, Canada, Sept 2003.
7. Chaperone-rich cell lysates: adjuvant, antigen, and applicability in an anti-cancer vaccine. Oral presentation, Univ of Arizona Dept. of Pediatrics Research Conference, Tucson, AZ, 2003.
8. Chaperone-rich cell lysates: adjuvant, antigen, and applicability in an anti-cancer vaccine. Invited speaker, Brain Tumor Center, Duke University, Durham, NC, March 2004.
9. Chaperone-rich cell lysates: peptides in an anti-cancer vaccine. Oral presentation (HSPs in Medicine), 9th International Congress on Hyperthermic Oncology, St Louis MO, April 2004.
10. Tumor-expressed albumin inhibits anti-tumor immune responses. Oral presentation, University of Arizona Department of Pediatrics Research Conference, Tucson, AZ, May 2004.
11. Chaperone-Rich Cell Lysates (CRCL): Adjuvant, Antigen and Applicability in an Anti-Cancer Vaccine. Lecture for Duke Brain Tumor Center Immunology Laboratories, Durham, NC, Jan 2005.
12. Heat shock proteins and cancer: turning up the heat on brain tumors. Guest speaker, Duke University Brain Tumor Board meeting, Durham, NC, April, 2005.
13. Targeted immunotherapy of brain tumors: antibodies, antigens, and activating an immune response. Invited speaker, Aspen Symposium on Brain Tumor Immunotherapy, Aspen CO, Aug 2005
14. Targeted (and not-so-targeted) immunotherapy of brain tumors. Cancer Biology Seminar Series, University of Arizona Cancer Center, Tucson, AZ, Aug 2005
15. Characterization of the HSP70 co-chaperone HspBP1 in brain tumors. Oral presentation, International Brain Tumor Research and Therapy Meeting, Napa, CA, April 2006
16. Heat shock proteins as immunotherapy against malignant glioma. Guest speaker, Southeastern Brain Tumor Society Board meeting, Atlanta, GA, Nov 2006.
17. Cell surface heat shock proteins as tumor targets: turning up the heat on brain tumors. Invited speaker, 2nd Annual Aspen Symposium on Brain Tumor Immunotherapy, Aspen, CO, August 2006.
18. Cell surface heat shock proteins as tumor targets: turning up the heat on brain tumors. Invited speaker, Society for Neuro-Oncology Immunotherapy Workshop, Orlando, FL, Nov 2006.
19. Brain Tumor Omics: the Good, the Bad, and the Irksome. Featured speaker, the Atlantic Cancer Research Institute’s Atlantic Omics Symposium and Expo, Moncton, New Brunswick, Canada, August 2007.
20. Functions and Phenotypes of Fateful Fat Balls: Studies on Brain Tumor Exosomes. Invited speaker, Southern Illinois University Carbondale, Dept. of Physiology, Carbondale IL, Apr 2008.
21. Brain Tumor Exosomes: Functions and Phenotypes of Fateful Fat Balls. Invited speaker, Southern Illinois University School of Medicine, Springfield, IL Apr 2008
22. Brain Tumor Exosomes: Proteomics and Immunology. Invited speaker, University of Missouri School of Medicine, Dept. of Surgery, Columbia, MO Aug 2008
23. Cancer Immunotherapy Using Heat Shock Protein Vaccines. Invited speaker, Pfizer Global Research, Drug Safety Division, La Jolla CA, Aug 2008
24. Heat Shock Proteins as Immunotherapy Against Brain Tumors. Grand Rounds, University of Colorado Health Sciences Center, Neurosurgery, Denver, CO, Sept 2008
25. Brain Tumor Exosomes: Proteomics and Immunology. Invited speaker, The Hamner Institute, RTP, NC, Oct 2008
26. Brain Tumor Exosomes: Proteomics and Immunology. For UCD Neuro-oncology Journal Club, University of Colorado, Denver, Aurora, CO. February, 2009
27. Brain Tumor Exosomes: More Proteomics, Less Immunology. For UCD Medical Oncology Journal Club, University of Colorado, Denver, Aurora, CO. February, 2009
28. Brain Tumor Exosomes: Biology and Immunology of Tiny Fat Balls. Invited speaker, Pediatrics Research Seminar, University of Arizona, Tucson AZ, April 2009.
29. Cell Surface HSPs, Exosomes, and the Immunobiology of Brain Tumors. Society for Thermal Medicine, invited speaker, Tucson, AZ; April 2009.
30. Heat Shock Protein Vaccines as Immunotherapy against Brain Tumors. Invited speaker, Colorado State University Animal Cancer Center, Ft Collins, CO, April 2009.
31. Brain Tumor Exosomes: Biology and Immunology of Tiny Fat Balls. For CSU Veterinary School of Biomedical Sciences, Ft Collins, CO, April 2009.
32. Brain Tumor “Exosomics”: Biology and Immunology of Tiny Fat Balls. Atlantic Omics Symposium and Expo 2009; invited speaker, “Emerging Fields”. Moncton, New Brunswick, Canada. June 2009.
33. Brain Tumor Exosomes: Biology and Immunology of Tiny Fat Balls. 4th Aspen Symposium on Brain Tumor Immuno- and Stem Cell Therapy. Invited speaker. Aspen, CO, August 2009.
34. CRCL Vaccines: Can a Cancer Vaccine Learn Anything from TB? Invited speaker, Mycobacterial Research Laboratories, Colorado State University, Ft Collins, CO, September 2009.
35. Brain Tumor Exosomes: Biology and Immunology of Tiny Fat Balls. Invited Speaker, Shenzhen-Hong Kong Institute of Infectious Diseases, Shenzhen 3rd People’s Hospital, Shenzhen, China, Oct 2009.
36. Introduction to Exosomes & Brain Tumor Exosomes: Phenotypes and Functions of Fateful Fat Balls. Invited speaker, State Key Laboratory for Molecular Virology & Genetic Engineering, in the Institute of Pathogen Biology at the Chinese Academy of Medical Sciences, Beijing, China, Oct 2009
37. CRCL Vaccines: Can a Cancer Vaccine Learn Anything from Tuberculosis? Invited speaker, State Key Laboratory for Molecular Virology and Genetic Engineering, Institute of Pathogen Biology, Chinese Academy of Medical Sciences, Beijing, China, Oct 2009
38. Brain Tumor “Exosomics”: Biology and Immunology of Tiny Fat Balls. Invited speaker, 9th Annual Frye Hallornan Symposium, Massachusetts General Hospital, Boston, MA, Nov 2009
39. Exosomes and microRNAs in the Regulation of the Unfolded Protein Response in Brain Tumors. Invited speaker, Society for Thermal Medicine meeting, Clearwater Beach, FL, April 2010
40. Brain Tumor Exosomes and the Biology of Medulloblastoma: the Influence of Tiny Fat Balls. Invited speaker, Roswell Park Cancer Institute, Depts. of Immunology and Cell Stress Biology, Buffalo, NY, April 2010
41. Brain Tumor Exosomes and the Biology of Medulloblastoma: the Influence of Tiny Fat Balls. For UCD Neuro-Oncology Journal Club, University of Colorado Denver, Aurora CO, May 2010.
42. A Proposed Phase I/II Study of AlloVaxTM Individualized Cancer Vaccine Combining Chaperone Rich Cell Lysate (CRCL) with AlloStimTM Adjuvant in Patients with Recurrent High Grade Gliomas. Invited speaker, Cell Stress International Vth Heat Shock Proteins in Cancer and Immunology, Woods Hole MA, USA, Nov 2010
43. Spewing Fat Balls While Under Siege: The Unfolded Protein Response and Exosomes in the Biology of Brain Tumors. Invited Speaker, University of Colorado Denver School of Pharmacy Lecture Series, University of Colorado Denver, Aurora CO, Jan 2011
44. Spewing Fat Balls While Under Siege: The Unfolded Protein Response and Exosomes in the Biology of Brain Tumors. Invited Speaker, Colorado State University Cell and Cancer Biology Seminar Series, Colorado State University, Fort Collins, CO Feb 2011
45. Hot, Shocking Cancer Vaccines. For UCD Medical Oncology Research in Progress, University of Colorado Denver, Aurora CO, Feb 2011
46. Therapeutic Vaccines: Chasing Down Established Disease. Invited Speaker, 1st Annual Colorado Vaccine Summit, Longmont, CO Mar 2011
47. Tumor cell stress can be transferred by exosomes, leading to metabolic changes, enhanced migration, and resistance to chemotherapy. Invited speaker, Society for Thermal Medicine, New Orleans LA, USA, April-May 2011
48. Stress Balls: Exosomes, Brain Tumors, and the Unfolded Protein Response. Invited Speaker, International Exo Expo in FoCo, Fort Collins, CO USA, May 2011.
49. Fat Ball System Biology…Mostly Biology, Not Much System. UCD Pharmacy Program, P50 Grant Search Series, University of Colorado Denver, Aurora, CO USA May 2011
50. Proteomics & “Peptidomics” of Chaperone-Rich Cell Lysate (CRCL) Vaccines AND the Malignant Glioma Immunotherapy Cell (MAGIC) Clinical Trial (co-presented with Tehila Sonnenfeld and Kevin Lillehei). 5th Aspen Symposium on Brain Tumor Immunotherapy. Invited speaker. Aspen, CO, August 2011.
51. Exosomes in Neuroscience and Beyond: Why Should We Care About Tiny Fat Balls? Invited speaker, Department of Clinical Pharmacology, University of Colorado Medical School, Aurora, CO, August 2011.
52. Spewing Fat Balls While Under Siege: The Unfolded Protein Response and Exosomes in the Biology of Brain Tumors. Invited Speaker, Molecular Microbiology and Immunology, St Louis University, St Louis MO, Sept 2011.
53. Medulloblastoma Exosomes Promote Invasive, Proliferative, and Immune Phenotypes of the Tumors: Lessons Learned from Proteomics and Ribonomics. Invited speaker, 1st Annual Exosomes and Microvesicles Conference. Orlando, FL, October 2011.
54. Spewing Fat Balls While Under Siege: The Unfolded Protein Response and Exosomes in the Biology of Brain Tumors. Neurosurgery Grand Rounds, University of Colorado Denver, Anschutz Medical Campus, Aurora CO, Oct 2011
55. Anschutz Foundation Update for the MAGIC Clinical Trial, University of Colorado School of Medicine, Aurora, CO Oct, 2011.
56. Anschutz Foundation Update for the MAGIC Clinical Trial, University of Colorado School of Medicine, Aurora, CO Feb, 2012
57. Deconstructing CRCL: How Proteins and Pieces of Proteins Ball Up to Form Something that Sparks an Immune Response. Neurosurgery Grand Rounds, University of Colorado Denver, Anschutz Medical Campus, Aurora CO, March 2012
58. Chaperone-Rich Cell Lysate (CRCL) Anti-Cancer Vaccine Update: Trials, Trilobites, and Triangulations. Invited speaker, Society for Thermal Medicine, Portland, Oregon, April 2012
59. Exosomes as “Stress Balls”: Extracellular Vesicles can Pass Unfolded Protein Response Phenotypes from Stressed Cells to Unstressed Cells. Invited speaker, ADAPT Conference 2012, Washington DC, Sept 2012.
60. Introduction to Extracellular Vesicles in Cancer and EMV-Tumor Cell Interactions: Is there anything these rat-bastards won’t do to get ahead? Invited speaker, Exosomes and Microvesicles 2012, Orlando FL, Sept 2012.
61. Spewing Fat Balls While Under Siege: Exosomes and the Unfolded Protein Response in the Biology of Brain Tumors. Invited speaker, Exosomes and Microvesicles 2012, Orlando FL, Sept 2012.
62. Chaperone-Rich Cell Lysate (CRCL) Anti-Cancer Vaccine Case Report Treating a Canine with a Lung Tumor (the story of a scientist and his dog). Invited speaker, Cell Stress Society International Meeting, Washington DC, Nov 2012.
63. A synopsis of proposed Phase I/II Trials of CRCL and AlloVax cancer vaccines with Chaperone-Rich Cell Lysate (CRCL) +/- AlloStim adjuvant in patients with primary or recurrent high grade gliomas (“Hot, Shocking Cancer Vaccines”). Invited speaker, University of Minnesota Duluth, Biomedical Sciences, Duluth MN, Dec 2012.
64. Spewing Fat Balls While Under Siege: The Unfolded Protein Response and Exosomes in the Biology of Brain Tumors. Invited speaker, University of Minnesota Duluth, Biomedical Sciences, Duluth MN, Dec 2012.
65. A suppressed tale of albumin: Cargo from tumor expressed albumin has immunosuppressive properties. Neurosurgery Grand Rounds, University of Colorado Denver, Anschutz Medical Campus, Aurora CO, Feb 2013
66. Induction of the unfolded protein response drives enhanced metabolism and chemo-resistance in glioma cells. Invited speaker, Society for Thermal Medicine Meeting, Oranestad/Palm Beach, Aruba, April 2013
67. Circulating exosomes as new biomarkers for brain disease and injury. Invited speaker, SPIE Defense, Security, and Sensing Conference, Baltimore MD, April 2013
68. Brain tumor exosomes stress allegiance in recipient cell signaling: tumor cells under stress and T cell under fire yield to the tumor’s bidding (Is there anything these rat-bastards won’t do to get ahead?). Invited speaker, American Society for Exosomes and Microvesicles 2013, Orlando, FL, Sept 2013.
69. The Unfolded Protein Response in Glioblastomas: Passing the Stress Test. University of Colorado Cancer Center Developmental Therapeutics Retreat, Anschutz Medical Campus, Aurora CO, Dec 2013.
70. Fat Balls in Blood and Pee: Extracellular Vesicles as Biomarker Reservoirs Following TBI. Neurosurgery Grand Rounds, University of Colorado Denver, Anschutz Medical Campus, Aurora CO, Jan 2014
71. Heat shock and endoplasmic reticulum stress—do they enhance the activity of HSP90 inhibitors? Society for Thermal Medicine Annual Meeting, Minneapolis, MN, May 2014.
72. Bioenergetics: Warburg, Apoptosis and Cytochrome C. Invited speaker, co-presented with Dr John Pearce, Society for Thermal Medicine Annual Meeting, Minneapolis, MN, May 2014.
73. Cancer Immunotherapy: Concepts and Challenges. Neurology Grand Rounds (co-presented with Dr Denise Damek), May 2014
74. Extracellular Vesicles in Cancer Signaling Pathways. Invited speaker, Exosomes and Single Cell Analysis Summit, San Diego, CA, Sept 2014
75. Transcriptional Regulator Proteins in EVs: The Potential to Mediate Downstream Pathways. Invited speaker,4th Annual ASEMV Meeting, Asilomar, CA, Sept 2014
76. Glioma Exosomes Mess with T Cells: Proliferation, Suppression, and Goin’ Nowhere. Neurosurgery Grand Rounds, University of Colorado Denver, Anschutz Medical Campus, Aurora CO, Mar 2015.
77. Tumor Extracellular Vesicle-Induced Signaling in Recipient Cells: It’s All About the Tumor. Invited speaker, CHI Extracellular Biomarkers Summit, Boston MA, Mar 2015.
78. Glioma-Derived Extracellular Vesicles Selectively Suppress Immune Responses. Invited Speaker, International Society for Extracellular Vesicles, Washington DC, April 2015.
79. Proteins in Extracellular Vesicles DO INDEED matter! Neurosurgery Grand Rounds, University of Colorado Denver, Anschutz Medical Campus, Aurora CO, May 2015.
80. Cancers Exploit Exosome-Mediated Suppression of T Cell Immunity. Invited speaker for a Special Symposium on Exosomes, PsychoNeuroImmunology Research Society Annual Meeting, Seattle, WA, June 2015
81. Tumor Extracellular Vesicle-Induced Signaling in Recipient Cells: It’s All About the Tumor. Invited speaker, Iowa State University College of Veterinary Medicine, Ames, IA, June 2015
82. Introduction and Welcome, 5th Annual American Society for Exosomes and Microvesicles Meeting (Opening Session MC and Chair), 5th Annual ASEMV Meeting, Marco Island, FL, Oct 2015
83. Can Glioblastoma Extracellular Vesicles Drive Normal Human Astrocytes Toward a Tumor-Enhancing Phenotype? Invited Speaker, 5th Annual ASEMV Meeting, Marco Island, FL, Oct 2015
84. Introduction to the ExoExpo in NoCo (“An Introduction to Fat Balls, which Really Need No Introduction”). Colorado State University, Ft Collins, CO, Oct 2015
85. Exosome Biology and Its Impacts on Cancer. Invited speaker, Endocrine Research Conference (UC Denver Dept of Endocrinology) March 2016
86. Stressing Out the Neighbors: Stressed Exosomes (“SexOsomes”?) Passages Stress Phenotypes to Recipient Cells (a brief proteomic analysis). Invited speaker, Circulating Biomarkers World Congress 2016, Boston, MA, March 2016
87. Shocks, Stresses, and Drugs: Hurting or Helping HSP90 Inhibitors in Cancer Chemotherapy? Proffered talk, International Congress on Hyperthermic Oncology, New Orleans, LA, USA, March 2016. \*\*Chosen as a “Best Presentation” by Session Chairs, with an invitation to publish the work in International Journal of Hyperthermia as a one of the Best Papers presented at ICHO, 2016.\*\*
88. Glioblastoma Extracellular Vesicles Drive Normal Astrocytes Toward a Tumor-Enhancing Phenotype. Proffered talk, International Society of Extracellular Vesicles, Rotterdam, The Netherlands, May 2016.
89. Exosome / Extracellular Vesicle Proteomics in Medulloblastoma Tumor Biology. Invited speaker, Special Emphasis Section on Exosomes, American Society for Pediatric Hematology/Oncology, Minneapolis, MN, May 2016.
90. Exosomes in Cancer Immunity: Obstacles and Opportunities. Invited speaker, University of Arizona Cancer Immunotherapy and Transplantation Conference, Tucson, AZ, June 2016.
91. Can Glioblastoma Extracellular Vesicles Drive Normal Astrocytes Toward a Tumor-Enhancing Phenotype? (ie, there goes the neighborhood…) Extracellular Vesicles: Biology and Therapeutic Potential (SelectBio Conference), Cambridge, UK, July 2016.
92. Introduction and Welcome, 6th Annual American Society for Exosomes and Microvesicles Meeting (ASEMV; Opening Session MC and Chair), Asilomar/Pacific Grove, CA, USA, Oct 2016
93. Stressing Out the Neighbors: Stressed Exosomes (“SexOsomes”?) Passages Stress Phenotypes to Recipient Cells (a brief proteomic analysis). Invited speaker, 6th Annual ASEMV Meeting, Asilomar/Pacific Grove, CA, Oct 2016
94. Stressing Out the Neighbors, Stressed Exosomes (“SexOsomes”?): Stress Balls or Care Packages in Passaging Stress Phenotypes to Recipient Cells. VIIIth Annual Cell Stress Society International Meeting, Old Towne/Alexandria VA, USA, Oct 2016.
95. Exosome Biology and Its Impact on Cancer. University of Colorado Cancer Center Seminar Series, Aurora, CO, Dec 2016.
96. The Ugly Disease Impacts of Glioma EVs on Normal Astrocytes. Invited speaker, Royal Society of London; Discussion Meeting on Extracellular vesicles and the tumour microenvironment. Royal Society Center, St James, London, UK, Jan 2017.
97. Stressing Out the Neighbors--Stressed Exosomes (“SexOsomes”?) Passage Stress Phenotypes to Recipient Cells. Invited speaker, Circulating Biomarkers World Congress (SelectBIO), Boston, MA, USA, March 2017.
98. Exosome Biology and Its Impacts on Cancer. Invited speaker, BIO5 Institute, University of Arizona, Tucson, AZ, USA, April 2017.
99. Exosomes in Neuroscience: Why Should Neurosurgeons Care About Tiny Fat Balls? Neurosurgery Division, Dept of Surgery, University of Arizona College of Medicine, Tucson, AZ, USA, April 2017.
100. Stressing Out the Neighbors: Stressed Exosomes (“SexOsomes”?) Passages Stress Phenotypes to Recipient Cells. Invited speaker, 34th Society for Thermal Medicine meeting, Cancun, Mexico, May 2017.
101. ­­­­Stressing Out the Neighbors: Stressed Exosomes (“SexOsomes”?) Passages Stress Phenotypes to Recipient Cells. Invited speaker, International Society for Extracellular Vesicles meeting, Toronto, Canada, May 2017.
102. XOs, Astros, and Conversion to the Dark Side. Invited speaker, University of Minnesota Brain Tumor Program, Minneapolis MN, USA, July 2017
103. Introduction and Welcome, 7th Annual American Society for Exosomes and Microvesicles Meeting (ASEMV; Opening Session MC and Chair), Asilomar/Pacific Grove, CA, USA, Oct 2017
104. XOs, Astros, and Conversion to the Dark Side. Invited speaker, 7th Annual ASEMV Meeting, Asilomar/Pacific Grove, CA, Oct 2017
105. Brain Tumor Exosomes in Cancer Immunity: Fat Balls of Immune Confusion. WEBINAR for 5th Annual LabRoots Cancer Research & Oncology Virtual Conference Oct 2017
106. Extracellular Vesicles in Biology & Medicine: A Brief Primer on Fat Balls. Invited speaker, University of Iowa Department of Infectious Disease, Oct 2017
107. Exosomes, Astrocytes, and Conversion to the Dark Side. Invited speaker, SelectBio World Congress of Biomarkers, Boston, MA, USA, Mar 2018
108. The HSP-Accessorized Exosome: Presence in States of Danger, Disease, and Disruption. Invited speaker, 35th Society for Thermal Medicine Meeting, Tucson, AZ, USA, May 2018.
109. Inflaming the masses: Glioma EVs Promote Inflammatory Responses, Degradative, and Metabolic Alterations in Normal Brain Cells. Invited speaker, World Preclinical Congress (Cambridge Healthtech Institutes), Boston, MA, USA, June 2018.
110. Inflaming the masses: Glioma EVs Promote Inflammatory Responses, Degradative, and Metabolic Alterations in Normal Brain Cells. University of Colorado Neurosurgery Research Meeting, June, 2018.
111. Inflaming the Masses: Glioma EVs Promote Inflammatory, Degradative, and Metabolic Responses in Normal Brain Cells. Invited speaker, American Society for Matrix Biology Annual Meeting, Las Vegas, NV, USA, Oct 2018.
112. Welcome and Introduction to the American Society for Exosomes and Microvesicles Annual Meeting, Invited speaker, 8th Annual ASEMV Meeting, Baltimore, MD, USA, Oct 2018.
113. The HSP-Accessorized Exosome: Presence in States of Danger, Disease, and Disruption. Invited speaker, Cell Stress Society International Meeting, Old Town/Alexandria VA, USA, Nov 2018.
114. The HSP-Accessorized Exosome: Presence in States of Danger, Disease, and Disruption. Invited speaker, SelectBIO World Congress of Biomarkers, Coronado Island/San Diego, USA, Mar 2019
115. Stressed exosomes (“sexosomes”): stress balls or care packages in passaging stress phenotypes to recipient cells? 36th Society for Thermal Medicine Meeting, St Pete Beach, FL, USA, May 2019
116. Metabolize or Die: John Pearce’s Fascination with Bioenergetics in Cancer, and What We Know (and Do Not Know) Now. Invited Speaker to a Special Session Honoring Dr John Pearce on His 70th Birthday. Summer Biomechanics, Bioengineering, and Biotransport Conference (SB3C 2019). Seven Springs, PA, USA, June 2019
117. Welcome and Introduction to the American Society for Exosomes and Microvesicles Annual Meeting, Invited speaker, 9th Annual ASEMV Meeting, Asliomar/Pacific Grove, CA, USA, Oct 2019.
118. Problems Inside and Out: Glioma EVs Alter Signaling, Metabolism, and the Extracellular Environment of Normal Brain Cells. Invited Speaker, American Society for Exosomes and Microvesicles, 9th Annual ASEMV Meeting, Asliomar/Pacific Grove, CA, USA, Oct 2019.
119. Stressed exosomes (“sexosomes”): stress balls or care packages in passaging stress phenotypes to recipient cells? Invited Speaker, Cell Stress Society International; 9th International Congress on Stress Responses in Biology and Medicine, San Diego, CA, USA, Nov 2019
120. Problems Inside and Out: Glioma Exosomes/EVs Alter Signaling, Metabolism, and the Extracellular Environment of Normal Brain Cells. Invited Speaker, University of California San Diego, San Diego, CA, USA; Special Exosome Lecture, Feb 2020.
121. Update on the CU Neurosurgery Nervous System BioRepository. University of Colorado Neurosurgery Grand Rounds, Aurora, CO, USA, Mar 2020.
122. Problems Inside and Out: Glioma Exosomes/EVs Alter Signaling, Metabolism, and the Extracellular Environment of Normal Brain Cells. Invited Speaker, Extracellular RNA Communication Consortium (ERCC) Webinar Series (online), June 2020
123. Problems Inside and Out: Glioma Exosomes/EVs Alter Signaling, Metabolism, and the Extracellular Environment of Normal Brain Cells. Invited Speaker, Biology of Neurodegeneration Group, Oregon Health and Science University (virtual), July, 2020.
124. The well-chaperoned extracellular vesicle: their presence in neuropathologies. Proffered oral presentation, International Society for Extracellular Vesicles (ISEV) Annual Meeting (virtual), July 2020.
125. The HSP-Accessorized Exosome-- Presence and Roles in Neuropathologies. STM Virtual Min-Symposium, “Externalized Stress Balls: Exosomes, Stress, and the Extracellular Space” Aug 2020.
126. Problems Inside and Out: Glioma Exosomes/EVs Alter Signaling, Metabolism, and the Extracellular Environment of Normal Brain Cells. Invited Speaker, WebEVTalk Series (international web/virtual series) Sept 2020.
127. Problems Inside and Out: Glioma Exosomes/EVs Alter Signaling, Metabolism, and the Extracellular Environment of Normal Brain Cells. Invited Speaker, University of Minnesota Brain Tumor Program (virtual), Apr 2021.
128. Problems Inside and Out: Glioma Exosomes/EVs Alter Signaling, Metabolism, and the Extracellular Environment of Normal Brain Cells. Invited Speaker, The Fifth University of Minnesota Neuro-Oncology Symposium (virtual), May 2021.
129. Of Bones and Brain: EVs from a Recurrent Chordoma; Impacts on a Microenvironment. Global Cancer Consortium, Mini-symposium on Extracellular Vesicles in Cancer, Oct 2021
130. Problems Inside and Out: Glioma Exosomes/EVs Alter Signaling, Metabolism, and the Extracellular Environment of Normal Brain Cells. Louisiana State University Health Sciences Center, Shreveport, June 2022
131. Welcome and Introduction to the SelectBIO Extracellular Vesicles 2022: Biology, Disease, and Medicine. Seattle WA, USA, Sept 2022
132. Welcome and Introduction to the First American Society for Exosomes and Microvesicles/American Association of Extracellular Vesicles Joint Meeting (10th ASEMV Conference). Asilomar/Pacific Grove CA USA, Oct 2022
133. Extracellular Vesicles from Rare Cancers – Can They Tell Us Anything? ASEMV/AAEV Joint Meeting (10th ASEMV Conference), Asilomar/Pacific Grove CA USA, Oct 2022
134. A Tale of Two Tumors: Differential Effects of Glioma Exosomes on Astrocytes. Skaggs School of Pharmacy, Dept of Pharmaceutical Sciences, University of Colorado Anschutz Medical Campus. Nov 2022
135. Stress and Exosomes in Glioblastoma Therapeutic Resistance. In the webinar “New Challenges in Overcoming Chemoresistance in Glioblastoma”, sponsored by Cancer Drug Resistance. Nov 2022

**Posters and Student Presentations (partial listing)**

1. Visualization and Characterization of the Drosophila Sperm Tail During Early Embryonic Development. Poster presentation, ACSB Meetings, Houston 1989. Graner and Karr, authors.
2. Visualization and Characterization of the Drosophila Sperm Tail During Early Embryonic Development. Poster presentation, Regional ASCB Meeting, Chicago, 1990. Graner and Karr, authors.
3. Isolation and Characterization of a Drosophila Sperm Protein. Poster presentation, National Drosophila Research Conference, Chicago, 1991. Graner et al., authors.
4. Sperm-Egg Interactions in Drosophila. Poster presentation, Midwest Drosophila Conference, Monticello IL, 1991. Graner and Karr, authors.
5. Sperm-Egg Interactions in Drosophila: Purification and Characterization of a Protein Involved in Fertilization and Early Development. Poster presentation, ASCB Meetings, Boston, 1991. Graner et al., authors.
6. Calreticulin and a Bangles and Beads-like Protein in Drosophila Head and Gonads: Sex-specific Modifications? Poster presentation, National Drosophila Conference, Chicago, 1994. Graner et al., authors.
7. Drosophila Integrin Mutations: An Analysis at the Cell Level. Poster presentation, National Drosophila Research Conference, San Diego, 1996. Graner et al., authors.
8. Drosophila Calreticulin: A Sexual Issue? Poster presentation, University of Arizona Center for Insect Science Hexapodium, Tucson, AZ, 1996. Graner et al., authors.
9. Dendritic cells induce T cell responses against bcr/abl+ chronic myelogenous leukemia. Poster presentation, Keystone Symposia on Molecular and Cellular Biology, Cellular and Molecular Biology of Dendritic Cells, Santa Fe, NM, 1998. He et al., authors.
10. Purification of Heat Shock and Chaperone Proteins from A20 Murine Lymphoma. Poster presentation, Cold Spring Harbor Meeting: Molecular Chaperones and the Heat Shock Response, Cold Spring Harbor, NY, 1998. Graner et al., authors.
11. Augmentation of tumor lysate immunogenicity by enrichment of chaperone proteins using free solution isoelectric focusing. Poster presentation, Keystone Symposia on Cellular Immunity and Immunotherapy of Cancer, Santa Fe, NM, 2000. Katsanis et al., authors.
12. Tumor Derived Multiple Chaperone Protein Enrichment by Free Solution-Isoelectric Focusing (FS-IEF) Yields Potent Anti-Tumor Vaccines. Poster Presentation, University of Arizona Cancer Center Faculty Research Forum, Tucson, AZ, 2000. Graner et al., authors.
13. A ‘Trojan Horse’ in the Anti-Tumor Vaccine: Is Serum Albumin Transporting TGF-? Poster Presentation, University of Arizona Cancer Center Faculty Research Forum, Tucson, AZ, 2000. Likhacheva et al., authors.
14. Tumor Derived Multiple Chaperone Protein Enrichment by Free Solution-Isoelectric Focusing (FS-IEF) Yields Potent Anti-Tumor Vaccines. Poster presentation, II International Conference on Heat Shock Proteins in the Immune Response, Farmington, CT, 2000. Graner et al., authors.
15. Tumor-derived chaperone proteins as anti-cancer vaccines in multiple modality cancer therapy. Poster presentation, AACR Conference, New Orleans LA, 2001. Tyszka et al., authors.
16. Exogenous stress proteins enhance the immunogenicity of apoptotic tumor cells and stimulate anti-tumor immunity. Poster presentation, AACR Conference, San Francisco CA, 2002. Feng et al., authors.
17. Dendritic cells loaded with tumor-derived multiple chaperone proteins enriched by free solution-isoelectric focusing induce significant protective immunity. Poser presentation, AACR Conference, San Francisco CA, 2002. Zeng et al., authors.
18. Tumor-derived multiple chaperone complexes are effective therapeutic vaccines against a variety of cancers. Poster presentation, Cold Spring Harbor Meeting: Molecular Chaperones and the Heat Shock Response, Cold Spring Harbor, NY, 2002. Graner et al., authors.
19. Leukemia-derived chaperone-rich cell lysates activate dendritic cells and elicit therapeutic immunity against murine leukemia. Poster presentation, III International Conference on Heat Shock Proteins in the Immune Response, Farmington, CT, 2002. Graner et al., authors.
20. Exogenous stress proteins enhance the immunogenicity of apoptotic tumor cells and stimulate anti-tumor immunity. Poster presentation, Society for Biologic Therapy Meeting, San Diego CA, 2002. Feng et al., authors.
21. Tumor-derived chaperone-rich cell lysates activate dendritic cells and elicit therapeutic immunity against a wide variety of cancers. Poster presentation, Society for Biologic Therapy Meeting, San Diego CA, 2002. Graner et al., authors.
22. Leukemia-derived chaperone-rich cell lysates (CRCL) provide bcr-abl specific immunity. Poster presentation, Keystone Symposia on Basic Aspects of Tumor Immunology, Keystone CO, 2003. Katsanis et al., authors.
23. Peptide-Loaded Chaperone-Rich Cell Lysates May Enhance the Effectiveness of Anti-Cancer Vaccines. Poster Session, American Association of Cancer Research, Mar 2004. Kislin et al., authors.
24. Chaperone-Rich Cell Lysate (CRCL): The Enhancement of Antigen-Specific Peptide Presentation in an Anti-Cancer Vaccine. Poster Session, University of Arizona Recruiting Poster Session, Mar 2004. Kislin et al, authors.
25. Applications of chaperone-rich cell lysate anti-cancer vaccines. Poster presentation (Biology), 9th International Congress on Hyperthermic Oncology, St Louis MO, April 2004. Graner et al., authors.
26. Human ovarian tumor derived chaperon rich cell lysates (CRCL) activate dendritic cells & elicit T cell responses in vitro. Poster presentation, Society for Biologic Therapy, San Diego, CA, Sept 2005. Li et al, authors.
27. Characterization of the HSP70 co-chaperone HspBP1 in brain tumors. Poster Session, American Association of Cancer Research, Mar 2006, Washington DC. Graner et al., authors.
28. Characterization of the HSP70 co-chaperone HspBP1 in brain tumors. Poster presentation, Cold Spring Harbor Meeting: Molecular Chaperones and the Heat Shock Response, Cold Spring Harbor, NY, May, 2006. Graner et al., authors.
29. Brain Tumor Exosomes: Biology, Biochemistry, Immunology. Poster presentation, 15th SPORE Investigators’ Workshop, Baltimore MD, July 2007. Dechkovskaia et al, authors (Graner senior author).
30. Brain Tumor Exosomes: Biology, Biochemistry, Immunology. Poster presentation, 12th Annual Society for Neuro-Oncology Meeting, Dallas TX, Nov 2007. Graner et al, authors.
31. Proteomics and Peptidomics of Chaperone-Rich Cell Lysate (CRCL) Vaccines. Poster presentation, Cell Stress International Vth Heat Shock Proteins in Cancer and Immunology, Woods Hole MA, USA, Nov 2010. Sonnenfeld et al (Graner co-first author).
32. Transcriptional Regulator Proteins in EVs: The Potential to Mediate Downstream Pathways. Poster Presentation, 4th ASEMV Meeting, Asilomar, CA, Sept 2014. Graner et al, authors.
33. Stressing Out Your Neighbors: Extracellular Vesicles Propagate the Unfolded Protein Response in Brain Tumors. Cell Stress Society International Meeting, Alexandria, VA. Redzic et al, authors (Graner presenter)
34. The Dichotomy of Tumor Exosomes (TEX) in Cancer Immunity: Is it All in the ConTEXt? Keystone Symposium; Exosomes/Microvesicles: Novel Mechanisms of Cell-Cell Communication (E4). Kunigelis and Graner (Graner presenter) June 2016.
35. XOs, Astros, and Conversion to the Dark Side. Required poster presentation, 7th Annual ASEMV Meeting, Asilomar/Pacific Grove, CA, Oct 2017. (Wang et al, authors)
36. Inflaming the masses: glioma EVs promote inflammation, metabolic changes, and matrix degradation in normal brain tissues. Keystone Symposium Exosomes/Microvesicles: Heterogeneity, Biogenesis, Function and Therapeutic Developments (E2) (Graner presenter) June 2018
37. The HSP-Accessorized Exosome: Presence in States of Danger, Disease, and Disruption. Keystone Symposium Exosomes/Microvesicles: Heterogeneity, Biogenesis, Function and Therapeutic Developments (E2) (Graner presenter) June 2018
38. Inflaming the masses: glioma EVs promote inflammation, metabolic changes, and matrix degradation in normal brain tissues. 8th Annual ASEMV Meeting, Baltimore, MD, USA, Oct 2018.
39. The HSP-Accessorized Exosome: Presence in States of Danger, Disease, and Disruption. 36th Society for Thermal Medicine Meeting, St Pete Beach, FL, USA, May 2019.
40. Isolation and Characterization of Exosomes/Extracellular Vesicles Purified from Human and Swine Central Nervous System Tissues. Danny Torres, presenter. 9th Annual ASEMV Meeting, Asliomar/Pacific Grove, CA, USA, Oct 2019.
41. W Foreman, PD Tatman, A Fringuello, T Wroblewski, S Scherer, S Youssef, D Damek, K Lillehei, R Jensen, D Ormond, M Graner. “High-throughput screening of epigenetic inhibitors in chordoma and chondrosarcoma.” Journal of Neurological Surgery Part B: Skull Base volume:81 (2020)
42. T Wroblewski, PD Tatman, A Fringuello, W Foreman, S Scherer, D Damek, K Lillehei, R Jensen, D Ormond, M Graner. “Inhibition of PDGFR may be a viable treatment option for meningioma.” Journal of Neurological Surgery Part B: Skull Base volume:81 (2020)
43. PD Tatman, A Fringuello, T Wroblewski, W Foreman, S Scherer, D Damek, K Lillehei, R Jensen, D Ormond, M Graner. “Romidepsin is a possible treatment for meningiomas through dual inhibition of class 1 and 2 HDACs.” Journal of Neurological Surgery Part B: Skull Base volume:81 (2020)
44. PD Tatman, A Fringuello, T Wroblewski, W Foreman, S Scherer, D Damek, K Lillehei, R Jensen, D Ormond, M Graner. “High-throughput drug screening of meningiomas identifies HDAC inhibitors as promising targets across grades.” Society of Neuro-Oncology. (2019)
45. W Foreman, PD Tatman, A Fringuello, S Scherer, TH Wroblewski, D Damek, K Lillehei, R Jensen, D Ormon, M Graner. High-throughput screening of epigenetic inhibitors in chordoma and chondrosarcoma. Presented at the North American Skull Base Society Conference, February 2020.
46. PD Tatman, A Fringuello, TH Wroblewski, W Foreman, S Scherer, D Damek, K Lillehei, R Jensen, D Ormond, M Graner. High-throughput drug screening of meningiomas identifies HDAC inhibitors as promising targets across grades. Talk presented by Philip D. Tatman at the Society of Neuro-Oncology Conference. November 2019.
47. M Graner, K Nguyen, A Graner, A Fringuello, T Wroblewski, P Tatman, AS Youssef, P Witt, K Lillehei. Extracellular Vesicles from Rare Cancers – Can They Tell Us Anything? Presented at ASEMV/AAEV Conference, October 2022 (M Graner presenting).

**12. TEACHING / MENTORING RECORD**

- Leader of Neuro-Oncology Journal Club, 2010-2014

- Moderator of UCCC Cancer Biology PhD Journal Club

May 2018

Oct 2022

Educational Lectures

1. Vaccines, etc: Combining CRCL with other agents: Research/education lecture for the LAK Group, University of Arizona, Tucson, AZ, May 2002.
2. TEA Time, or, TWIT hits the fan… Research/education lecture for the LAK group, University of Arizona, Tucson, AZ, Feb 2004.
3. From IC to Duke in 20 short years: the education of a cancer immunologist. Invited speaker, Illinois College, Jacksonville, IL. March 2005.
4. The E-somes: Endosomes, Exosomes, and Ectosomes (and what this has to do with brain tumors). Guest lecturer, Biology/Chemistry, Illinois College, Jacksonville, IL Apr 2008
5. MicroRNA-7 and its effects on EGFR expression in tumors. For UCD Medical Oncology Journal Club, University of Colorado, Denver, Aurora, CO. March, 2009
6. Introduction to Exosomes & Brain tumor exosomes: phenotypes and functions of fateful fat balls. Guest speaker, University of Colorado Denver Department of Medicine Research Conference on Exosomes. Aurora, CO, April 2009.
7. Medulloblastoma microRNAs. For UCD Medical Oncology Journal Club, University of Colorado, Denver, Aurora, CO. August, 2009
8. Exosomes in Neuroscience: Should Neurosurgeons Care About Tiny Fat Balls? Neurosurgery Grand Rounds, University of Colorado Denver, Aurora, CO, Oct 2009
9. The Unfolded Protein Response: Where Are the microRNAs? For UCD Medical Oncology Journal Club, University of Colorado Denver, Aurora CO, Dec 2009.
10. The Unfolded Protein Response in Brain Tumors. For UCD Neuro-Oncology Journal Club, University of Colorado Denver, Aurora CO, Feb 2010.
11. What Are These Weird Things Sticking Out of the Tumor? For UCD Medical Oncology Journal Club, University of Colorado Denver, Aurora, CO Nov 2010.
12. Cancer Vaccines, Immunotherapy, and Tiny Fat Balls. For Anschutz Medical Campus Cancer Fund, University of Colorado Denver, Aurora CO, Jan 2011
13. Heat Shock Proteins in Cancer: Trouble-Makers, Targets, and Therapeutics. For UCD Neuro-Oncology Journal Club, University of Colorado Denver, Aurora CO, April 2011.
14. Refresher Course: Heat Shock Proteins in Cancer: Trouble-Makers, Targets, and Therapeutics. Invited speaker, Society for Thermal Medicine, New Orleans LA, USA, April-May 2011
15. Fat Balls are Bad for Your Abs. For UCD Medical Oncology Journal Club, University of Colorado Denver, Aurora, CO, June 2011.
16. Fat Balls are Bad for Your Abs—Summer Re-runs. For UCD Neuro-Oncology Journal Club, University of Colorado Denver, Aurora, CO June, 2011.
17. State of the Lab. For Waziri lab meeting, University of Colorado Denver, Aurora, CO June, 2011.
18. Sperm Tails to Cancer Vaccines: What a Long, Strange Trip It’s Been. Invited Speaker, Illinois College, Jacksonville, IL Sept 2011.
19. Cancer Vaccines for Brain Tumors: Do We Really Think We’re Ready for Prime Time? For UC Neuro-Oncology Journal Club, University of Colorado School of Medicine, Aurora, CO Sept, 2011.
20. Challenges in Immunotherapy Presented by the Glioblastomas Multiforme Microenvironment. For UCD Neuro-Oncology Journal Club, University of Colorado Denver Anschutz Medical Campus, Aurora, CO Jan, 2012
21. Exosomes: Tiny Fat Balls in Cancer Biology. For the UCD LABCOATS Program, University of Colorado Denver Anschutz Medical Campus, Aurora, CO, April, 2012
22. The Baddest of Brain Tumors, and What We Try to Do About Them (High Grade Gliomas and the Prospects for Immunotherapy). For the Surgery Group, Rocky Vista Medical School, Parker CO, May 2012.
23. The Unfolded Protein Response (UPR). Lab meeting, UC Anschutz, June 2012.
24. Proteins and Proteomics Lab meeting, UC Anschutz, July 2012.
25. Research Update for the American Brain Tumor Association. ABTA Annual Patient, Family, and Caregiver Meeting, Chicago, IL, July 2012.
26. …and the worms ate into his brain: Proteoglycans and their roles in brain tumors. For UCD Neuro-Oncology Journal Club, University of Colorado Denver Anschutz Medical Campus, Aurora, CO Jan 2013
27. Tumor Associated Macrophages in Glioma: Friend or Foe? *[TAMs and Tumors: Is There Anything These Rat-Bastards Won’t Do to Get Ahead?]* For UCD Neuro-Oncology Journal Club, University of Colorado Denver Anschutz Medical Campus, Aurora, CO July 2013.
28. Research Update for the American Brain Tumor Association. For UCD Neuro-Oncology Journal Club, University of Colorado Denver Anschutz Medical Campus, Aurora, CO July 2013
29. What’s in Exosomes and Why Does Packaging Matter? For the UCD Exosome Journal Club, June 2014
30. The Baddest of the Brain Tumors and What We Try to Do About Them (High Grade Gliomas and the Prospects for Immunotherapy). UCCC Summer Fellows Lecture, June 2014.
31. EGFR wild type antagonizes EGFRvIII-mediated activation of Met in glioblastoma. For UCD Neuro-Oncology Journal Club, University of Colorado Denver Anschutz Medical Campus, Aurora, CO Jan 2015.
32. A Hot Mess: Stress, Heat Shock Proteins, and Extracellular Vesicles. Invited presenter of a Refresher Course, Society for Thermal Medicine, Orlando, FL, April 2015.
33. Review of the Meeting of the International Society for Extracellular Vesicles, for the UCD Exosome Journal Club, May 2015.
34. Graner Lab Meeting: “What goes on around here? Exosomes and Microvesicles”, June 2015.
35. The Baddest of the Brain Tumors and What We Try to Do About Them (High Grade Gliomas and the Prospects for Immunotherapy). UCCC Summer Fellows Lecture, July 2015.
36. Exosome “TEXtimonial”: How Did I Get Into This and Why Am I Still Here?? Exosome stories/discussion, 5th Annual ASEMV Meeting, Marco Island, FL, Oct 2015
37. “Resident Expert” on exosomes, Pharmacology Journal Club, Mar 2016
38. Immunomodulation by Tumor Cell-Derived EVs/Tumor Exosomes (TEVs/TEX). Invited speaker, ISEV Education Day, International Society for Extracellular Vesicles, Rotterdam, The Netherlands, May, 2016.
39. Immunomodulation by Tumor Cell-Derived EVs or Tumor Exosomes (TEVs/TEX) [Fat Balls and Tumor Immunity, or lack thereof]. UCCC Summer Fellows Lecture, June 2016.
40. Graner Lab Research Activities. Neurosurgery Grand Rounds, Research Presentations to the Dept, Sept 2016, University of Colorado Denver/Anschutz, Aurora, CO, USA
41. Hot, Stressful Moments,“SexOsomes”, & Immune Influences in Brain Tumor Biology. Neurosurgery Grand Rounds, Research Presentations for Resident Applicants, Nov 2016, University of Colorado Denver/Anschutz, Aurora, CO, USA
42. ExStress: Stress Responses Outside the Cell (part of The Physics, Biology, and Immunology of Thermal NanoMedicine). Refresher Course Workshop, Society for Thermal Medicine, May, 2017, Cancun, Mexico.
43. Graner Lab Meeting: “What goes on around here? Extracellular Vesicles, Cell Stress, Immunology, and Brain Tumors”, June 2017.
44. Graner Lab Meeting: “The Unfolded Protein Response”, June 2017.
45. Graner Lab Meeting: “Exosomes, Astrocytes, and Conversion to the Dark Side”, June 2017.
46. Immune Therapy and High-Grade Brain Tumors [Fat Balls and Tumor Immunity, or lack thereof]. UCCC Summer Fellows Lecture, July 2017. University of Colorado Denver/Anschutz, Aurora, CO, USA
47. Graner Lab Research Activities (“Inflaming the masses: GBM exosomes promote inflammatory response in astrocytes”). Neurosurgery Grand Rounds, Research Presentations to the Dept, Sept 2017, University of Colorado Denver/Anschutz, Aurora, CO, USA
48. Immune Therapy and High-Grade Brain Tumors [Fat Balls and Tumor Immunity, or lack thereof]. UCCC Summer Fellows Lecture, July 2018. University of Colorado Denver/Anschutz, Aurora, CO, USA
49. Extracellular vesicles in inflammation. Neuroinflammation and Aging Journal Club, Dec 2018, University of Colorado Denver/Anschutz, Aurora, CO, USA
50. Participant, ISEV Mini-Workshop; Cell and Organ Targeting by Extracellular Vesicles. Feb 2019, Philadelphia, PA, USA
51. Graner Lab Meeting: “What Goes on Around Here, 2019”; June, 2019
52. Graner Lab Meeting: What you need to know about things in lab; June 2019
53. Graner Lab Meeting: Antibodies and Their Applications; July 2019
54. Graner Lab Meeting: What did YOU do this summer? July 2019
55. Immune Therapy and High-Grade Brain Tumors. UCCC Summer Fellows Lecture, July 2019. University of Colorado Anschutz Medical Campus, Aurora, CO, USA
56. Immune Therapy and High-Grade Brain Tumors. UCCC Summer Fellows Lecture, July 2020. University of Colorado Anschutz Medical Campus, Aurora, CO, USA
57. Heat stress and heat shock proteins. ASLMS/STM Cell Stress Pathways and Energy-Based Devices Webinar, Feb 2021
58. High Culture or Pop Culture? Tumor Chunks, Cell Lines, and Organoids Neurosurgery Research Meeting, May 2021
59. Immune Therapy and High-Grade Brain Tumors. CREU/UCCC Summer Fellows Lecture, July 2021. University of Colorado Anschutz Medical Campus, Aurora, CO, USA
60. Intro to the Cell Stress Symposium -- Stress Tests Outside the Cell: Roles of Stressed Exosomes (“Sexosomes”). Society for Thermal Medicine, May 2022 (virtual)
61. Immune Therapy and High-Grade Brain Tumors. CREU/UCCC Summer Fellows Lecture, July 2022. University of Colorado Anschutz Medical Campus, Aurora, CO, USA
62. The Nexus of Viruses and Extracellular Vesicles: A Nano-Review. SelectBIO Conference; Extracellular Vesicles 2022: Technologies Driving Biological Investigations. Dec 2022, Long Beach CA, USA.

Academic Host

2010 Xinchun Chen, MD, PhD, Professor and Associate Director, Shenzhen-Hong Kong Institute of Infectious Diseases, Shenzhen Institute of Hepatology, Shenzhen Third People's Hospital, Shenzhen, China

2011 Michel Vidal, PhD, CNRS Research Director, University Montpellier

2012 Lorraine O’Driscoll, PhD, Trinity College Dublin

2013 Adriana Alcantara, PhD, University of Houston

2014 Michael Olin, PhD, University of Minnesota

2017 Michael Olin, PhD, University of Minnesota

2018 Peter Kennedy, MD, PhD, DSci, MPhil, MLitt, University of Glascow

2019 Mahmut Safak, PhD, Temple University

2019 Krzysztof Reiss, PhD, Louisiana State University Health Sciences Center

2019 Sandra Banack, PhD, Brain Chemistry Labs (Jackson, WY)

2019 Rachael Dunlop, PhD, Brain Chemistry Labs (Jackson, WY),

2021 Michael Olin, PhD, University of Minnesota

2022 Michael Olin, PhD, University of Minnesota

Advisor

1. Michael Anderson and Will Green, winners of the International Science and Engineering Fair, Tucson, AZ, Rio Rico High School Science Class

PhD Thesis Committee Member/Mentor/Outside Reader

Thesis Committee Member and Mentor

* Kerri Kislin PhD, University of Arizona Cancer Biology Interdisciplinary Program
* Laura Epple, PhD candidate, Cell Biology, Colorado State University
* Nirjhar Aloy, PhD candidate, Dr. Stephan Witt Laboratory

Louisiana State University Health Sciences Center

PhD Thesis Committee Member

* Carrie Johnson, Duke University Cancer Biology and Pharmacology Program
* Lida Le Beninson, Dept. of Integrative Physiology, University of Colorado Boulder
* Jennifer Benson, Human Medical Genetics & Genomics Program, UC Denver
* Tyson Smyth, School of Pharmacy, UC Denver
* Jasmina Redzic, Biochemistry and Molecular Genetics, UC Denver
* Elizabeth Gould, UC Denver Neuroscience Program
* Scott Seitz, Microbiology, UC Denver
* Scott Tilden, PhD candidate, PharmTox Program, CU Skaggs School of Pharmacy
* Emily Burtch, PhD candidate, CU Anschutz Bioengineering
* Parsa Haque, PhD candidate, University of Colorado Cancer Biology Program

Master’s Thesis Committee Member

* Christina Coughlan, PhD; MS candidate, Clinical Science Graduate Program, University of Colorado, Anschutz Medical Campus

Advisory Committee Member

* Lisa McPhatter, Duke University Pathology Dept
* Amy Keating, MD, K12 Awardee

Outside / External PhD Thesis Review

* Ying Li, MD, PhD, Roswell Park Cancer Institute
* Evan Zynda, PhD, Roswell Park Cancer Institute
* Nirjhar Aloy, PhD candidate, Dr. Stephan Witt Laboratory. Louisiana State University Health Sciences Center
* Niamh McNamee, PhD, Trinity College, Dublin (University of Dublin)

Mentor

- Chair of Faculty Mentoring Committee for John Thompson, PhD, Associate Professor of Neurosurgery

- Neurosurgery Resident Steven Carr, MD

- Neurosurgery Resident Katherine Kunigelis, MD

- “Ad Hoc” mentor for Brianne Bettcher, PhD, Assistant Professor of Neurosurgery and Neurology

- “Ad Hoc” mentor for Elena Hsieh, MD, Assistant Professor of Immunology & Microbiology, and Pediatrics. Listed as a mentor on Dr Hsieh’s K award.

- “Ad Hoc” mentor for Katherine Lee, PhD, Assistant Professor of Pediatrics

- “Ad Hoc” mentor for Safinur Atay, PhD, post-doc, University of Kansas Medical Center. Listed as a mentor on Dr Atay’s submitted K award.

- “Ad Hoc” mentor for Robert Kowalski, MD, MS, Research Instructor in Neurology/Neurosurgery (Listed as mentor on Dr Kowalski’s submitted K award)

Research Mentor/Preceptor

* Davis Romney, University of Arizona
* Nicole Davis, University of Arizona
* Anna Likhacheva, University of Arizona
* Jane Davis, University of Arizona
* Jared Brandenberger, University of Arizona
* Angela Romanoski, University of Arizona
* Nitin Sharma, CURES Program, University of Colorado Boulder, CO
* Tessa Harland, CU Cancer Center Summer Fellow, Colorado College, Colorado Springs, CO
* Alex Lencioni, CU Cancer Center Fellow, University of Colorado Boulder, CO
* Justin Hellwinkel, CU Cancer Center Fellow, University of Colorado Boulder, CO
* Adithya Mohan, Smoky Hill High School, Aurora, CO
* Arin Graner, CU Cancer Center Fellow, Grandview High School, Aurora, CO
* Maninder Sethi University of Colorado Boulder, CO
* Desislava Todorova University of Colorado Boulder, CO
* Anastasiya Trinzo University of Colorado Denver, CO
* Mohammed Alawami University of Colorado Denver, CO
* Steven Bruzek, CU Cancer Center Fellow, University of South Florida, Tampa, FL
* Timothy Ung, MS2-4, University of Colorado Medical School, Aurora, CO
* Paige Alvarez, University of Colorado, Colorado Springs, CO
* Paul Marchando, CU Cancer Center Fellow, University of Colorado Boulder, CO **(2X)**
* Vince Bolus, CU Cancer Center Fellow, University of Alabama, Tuscaloosa, AL **(2X)**
* Phong Pham, CU Cancer Center Fellow, University of Texas Arlington, TX
* Kendra Kirby, UC-SOM Undergraduate Pre-health Program (UPP) Student, University of Colorado Denver, CO
* Charlotte McRae, CU Cancer Center Fellow, University of Alabama, Tuscaloosa, AL
* Danny Torres, GEMS (Graduate Experience for Multicultural Students), St Leo University, St Leo, FL
* Khoa Nguyen, CREU Cancer Center Fellow, University of Colorado Denver (**2X**)
* Bryne Knowles, CREU Cancer Center Fellow, Vanderbilt University

Mentor, other

* Laura Epple, PhD candidate, Cell Biology, Colorado State University, Fort Collins, CO, Mentor for Student Rotation
* Meheret Nega, LABCOATS Mentor, UC Denver
* Nate Dusto, Research Advisor and Mentor, Colgate University
* Olivia Gardner, Eagle Crest High School, Centennial, CO
* Iris Collazo, Denver STaRS Program, Denver School for Science & Technology
* Daniel Adamasu, Denver STaRS Program, Denver School for Science & Technology
* Anthony Fringuello, Lab Assistant/Volunteer
* Kinda Alquatli, Metropolitan State University of Denver
* Danielle Sansone-Poe (Thompson) Lab Assistant/Volunteer
* Alex Ojemann, Cherry Creek High School, Englewood, CO
* Aitana Gonzales, University of Colorado Denver, CO
* Zoe Zizzo, Rock Canyon High School, Highlands Ranch, & Colorado College
* William Foreman University of Denver
* Samuel Scherer University of Denver
* Tadeusz Wroblewski University of Denver
* Luke Bergen, University of Denver
* Kamara Anyanwu Claremont McKenna College, Claremont CA

Internship Director

* Meheret Nega UC Denver

Illinois College/CU Neurosurgery Research Fellow Mentor

* Morgan Lenz, Illinois College, Jacksonville, IL
* Brooke Metzger, Illinois College, Jacksonville, IL

“Externship” Mentor (MS students from Regis University, Denver CO)

* Alexander Shilling
* Hiba Eltom
* Amanda Gagas
* Michael Gavrilovic
* Caleb Hanson
* McKenna Redwine
* Priscilla Nash

Preceptor

Medical Student Mentored Scholarly Activity

* Ben Winston, MD MS1-4 (Orthopedic Surgery Residency at OHSU, OR)
* Matt Herring, MD MS1-4 (Orthopedic Surgery Residency at U Minn, MN)
* Feven Tesfalidet, MD MS2 (Anesthesiology Resident, Maimonides, NY)
* Tim Ung, MD MS1-4 (Neurosurgery Resident, University of Colorado Anschutz)
* Soliman Oushy, MD MS1-4 (Neurosurgery Residency at Mayo, MN)
* Colt Burtrand, MS1-2
* Mary Wang, MS1-4

Neurosurgery Medical Student Internship

* Jerry Yang, MS1-2

Medical Student Research Track

* Khoa Nguyen, MS1-2

Hem/Onc Fellow Project

* Susan O Bernict, MD, *Dr. Rajeev Vibhakar’s Lab*

Pulmonary Sci/Critical Care Med Fellow Project

* Jessica A Badlam, MD, *Dr. Sonia Flores’ Lab*

Post-Doctoral Research Advisor

* Jasmina Redzic, PhD
* Timothy Kopper, PhD

Lab Visit Site

* Neurosurgery Research Day (for students from UC Boulder) June 2014
* UCCC Learn About Cancer Day Feb 2014-2022

Laboratory Personnel / Technical Staff Mentored

* Amy Raymond, University of Arizona
* Sylvia Thompson Romm, University of Arizona
* Marilyn Marron, University of Arizona
* R Ian Cumming, Duke University
* Shelley Davis, Duke University
* Ling Wang, Duke University
* Nichole Satterwhite, Duke University
* Emily Disney, Duke University
* Angelika Dechkovskaia, Duke University
* Alex Lencioni, University of Colorado Denver
* Helen Madsen, University of Colorado Denver
* Justin Hellwinkel, University of Colorado Denver
* Tessa Harland, University of Colorado Denver
* Rae Russell, University of Colorado Denver
* Mary Wang, University of Colorado Denver
* Dicle Gunaydin, University of Colorado Boulder
* Ger (Jamie) Nguyen, University of Colorado Denver
* Anthony Fringuello, University of Colorado Denver
* Julia Craft, University of Colorado Anschutz Medical Campus
* Arin Graner, University of Colorado Anschutz Medical Campus
* Kristen Hirter, University of Colorado Anschutz Medical Campus
* Marie Smith, University of Colorado Anschutz Medical Campus

**13. Grant Support**

**Current Funding**

NIH/NIMH

Development of Validation of Phage-Displayed Random Peptide Libraries Technologies for Rapid Isolation and Characterization of Extracellular Vesicles from Patients with Brain Tumors

4R33MH118174-03 (Graner and Yu, mPIs) 11/01/2020-10/31/2023 Percent effort 40%

Role: mPI

Total direct costs: $496,997

NIH/NIA

Investigating the Contribution of Peripheral versus Central Nervous System Immune Dysfunction to Cognitive Aging

1R01AG05877201A1

Dates: 02/15/19 to 11/30/2023

Percent Effort: 5%

Role: co-I (B Bettcher, PI)

Total direct costs: $600,000/year for 4 years

NIH/NICHD

Development of Fetal Immunity

1 R01 HD107793-01A1

Dates: 03/01/2023 to 02/28/2027

Percent Effort: 2%

Role: co-I (A Weinberg, PI)

Total direct costs: $300,000/year for 4 years

Anschutz Foundation

MAGIC (Malignant Glioma Immunotherapy Cell) Clinical Trial

PIs: Lillehei and Graner

Dates: undefined

Percent Effort: undefined

Total Direct Costs: $250,000

**Pending**

NIH/NCI

R01 The multifunctional role of TP and interaction with Src kinases in glioblastoma

$250K per year for 5 years

Dates: Sept 2020 to Aug 2025

Percent effort: 2.5% (also funding for 25% PRA)

Role: Co-I (Philip Reigan, PI)

NIH/NINDS

R61/R33 Ultra-early Biomarkers of Acute Stroke

$500K per year for 5 years

Dates: Sept 2020 to Aug 2025

Percent effort: 15% and lab funding

Role: Co-I (Robert Kowalski, PI)

**Previous Funding**

V Foundation CORC Grant

Elucidating the immunosuppressive mechanism(s) of tumor vascular endothelial cells to develop immunotherapy for CNS tumors

Lead PI Pluhar, GE (University of Minnesota)

Dates: 01/01/2021 to 12/31/2023

Percent effort: 2%

Role: Lead PI at Collaborating Institution

$483,187 direct costs ($94,407.00 subcontract to CU)

NIH/NIGMS

Exploiting an endogenous transcytotic pathway for oral drug delivery

1 R01 GM129046-01

mPIs Anchordoquy, Graner

Dates: 08/01/2018 to 04/30/2022

Percent effort: 20%

Role: mPI (with Dr Tom Anchordoquy)

$320,775 direct costs/year for 4 years

Meningioma Mommas

Determining the Therapeutic Potential of HDAC Inhibitors in Meningiomas

(with Philip Tatman)

Role: PI

Dates: 06/01/2019 to 05/31/2022

Percent effort: 10% (no salary)

Total direct costs: $29,443

University of Colorado, Department of Neurosurgery

Research Innovation Award: Development of Brain Tumor Organoids

Role: PI

Dates: 01/01/2021 to 12/31/2022

Percent effort: 10% (no salary)

Total direct costs: $20,000

University of Colorado Cancer Center

Michele Plachy-Rubin Fund for Pilot Grants in Brain Cancer Research

Targeting Thymidine Salvage and Evaluation of Temozolomide Potentiation in Glioblastoma

Dates: 03/01/2021 to 02/28/2022

Role: Co-I (Phil Reigan, PI)

Percent effort: 10% (no salary)

Total direct costs: $40,000

Neuraptive Therapeutics

Nerve Damage Therapy Research

PI: Lillehei and Graner

Project Period: 5/01/2019-12/31/2020

Total Award: $21,335

NIH/NIMH

NIH Blue Print: Development and Validation of Technologies for Rapid Isolation and Characterization of Extracellular Vesicles of Central Nervous System Origin

Rapid Isolation and Characterization of Extracellular Vesicles in Patients with Brain Tumors Using Phage-Displayed Random Peptide Libraries

1R21MH118174-01

Dates 09/18/2018 to 07/31/2020

Percent effort: 25% for R21, 50% for R33

Role: corresponding mPI (with Dr Xiaoli Yu)

Total direct costs: $275,000 over 2 years, with possible extension to R33

Meningioma Mommas

Determining the Therapeutic Potential of Targeting DNA Methylation in Meningiomas, and the Establishment of Aggressive and Recurrent Cell Lines

(with Philip Tatman)

Dates: 06/01/2018 to 05/31/2019

Percent effort: 10% (no salary)

Role: PI

Total direct costs: $29,443

NIH/NIBIB

Tumor-Homing Exosomes for Drug Delivery

mPIs: Anchordoquy, Graner

Dates: 12/01/2012 to 11/31/2017

Percent effort: 20%

Total direct costs: $250,000 yr for 4 yrs

National Multiple Sclerosis Society:

Collaborative Research Center Award

Mechanisms of glial injury in demyelinating disorders

PIs: Macklin, Bennett, Owens, Tyler. Co-PI: Graner

Dates: 04/01/2013-03/31/2018

Percent Effort: 5% (no salary)

Total Direct Costs: $742,500

Department of Defense Breast Cancer Funding Idea Award

Can Exosomes Induced by Breast Involution Be Markers for the Poor Prognosis and Prevention of Postpartum Breast Cancer? PI: Borges; Key Personnel: Graner

Dates: 06/01/2013 to 05/31/2015

Percent Effort: 1% salary

Total Direct Costs: $581,092.00

UCCC Genomics and Proteomics Core/SomaLogic

Can plasma proteome signatures identify patients with glioblastomas or metastatic brain tumors?

PI: Graner

Half-price on 12 serum samples utilizing SomaScan technology for protein identification and quantitation (includes bioinformatics work-up). Worth ~$7500.

Cancer League of Colorado

Metabolomics of primary and recurrent high grade gliomas: a role for the UPR

PI: Graner

Dates: 06/01/2010 to 05/31/2011

Percent Effort: 10% (no salary)

Total Direct Costs: $30,000

American Brain Tumor Association:

Survival outcomes and patient immune responses in pediatric CNS tumors: the roles of microRNA-221 and exosomes

PI: Bemis; Co-PI: Graner.

Dates: 08/01/2010 to 07/31/2011

Percent Effort: 10% (no salary)

Total Direct Costs: $30,000

UCCC/AMC

Multiple PI Pilot Project Grant

Metabolomics of glioblastomas and tumor tissues in a novel organotype tumor slice culture model: Stress responses and the dynamic tumor metabolome

PIs: Graner, Serkova, Waziri.

Dates: 08/01/2010 to 07/31/2011

Percent Effort: 10% (no salary)

Total Direct Costs: $30,000

Cancer League of Colorado:

Exosomes, microRNAs, and Regulation of the Unfolded Protein Response in Brain Tumors

PI: Graner.

Pediatric Brain Tumor Foundation

Renewal Submission, Institute Grant

Discovery Proteomics for Identification of Pediatric Brain Tumor Cell Surface Antigens (Project 5B)

PI: Michael Graner; Co-PI: Oscar Alzate

Project receives $100,000 yearly

Pediatric Brain Tumor Foundation

Specific Antigen-Targeted Immunotherapy of Medulloblastoma (Project 5C)

PI: Chien-Tsun Kuan; Co-PI: Michael Graner

Project receives $100,000 yearly

NIH Program Project Grant

SRC Co-Director, Core 1

Clinical grade reagent preparation and characterization.

NIH Program Project Grant

SRC 5P50NS20023-22, Co-Director, Core 1

Project period 2/1/04-1/31/09

Total direct cost $5,000,000

Pediatric Brain Tumor Foundation of the United States

Institute Grant, Director, Core 2

Translational Grant

Co-PI, Project A

Total direct costs $1,000,000 yearly

Southeastern Brain Tumor Foundation

Heat Shock Protein Vaccines as Immunotherapy against Malignant Glioma

PI: Michael Graner

Project period: 11/06 – 6/07

Total award: $75,000

Duke Comprehensive Cancer Center Developmental Research Funding Opportunity

Targeting the unfolded protein response in brain tumors

PI: Chris Nicchitta; Co-PI: Michael Graner

Project period: 7/06-7/07

Total award: $50,000

Duke University Brain Tumor SPORE Career Development Award

Tumor Cell Stress and Immune Activation in a Murine Glioma Model

PI: Michael Graner

Project period 2/15/06 – 2/14/07

Total award $50,000

Arizona Disease Control Research Commission

Chaperone rich cell lysates (CRCL) Vaccine for Ovarian Cancer

PI: Emmanuel Katsanis; Co-PI: Michael Graner

Project period 7/03-7/06

Total direct cost $150,000

NCI 1 R01 CA104926-01

“Chaperone rich cell lysate (CRCL) vaccine for chronic myelogenous leukemia”

PI: Emmanuel Katsanis; Co-PI: Michael Graner

Project period 12/03-11/07

Total direct cost $900,000

University Physicians Experimental Research in Clinical Care (UPERCC)

Chaperone-Rich Cell Lysates (CRCL): The new wave of anti-cancer vaccines

PI: Emmanuel Katsanis; Co-PI: Michael Graner

Project period 5/03-5/05

Total direct cost $199,898

Department of Defense Chronic Myelogenous Leukemia Research Program #CM020031

Chaperone rich cell lysate (CRCL) vaccine for chronic myelogenous leukemia

PI: Emmanuel Katsanis; Co-PI: Michael Graner

Project period 7/03-7/06

Total direct cost $485,501

NIH R21 CA100596-01

Multiple chaperone complexes: Natural adjuvants and antigens for dendritic cell based vaccines

PI: Emmanuel Katsanis; Co-PI: Michael Graner

Project period 7/03-7/05

Total direct cost $300,000

Michael Landon Fund Awardee

2001-2002, covered salary

Arizona Cancer Biology Training Grant Recipient

Danny L Brower, Mentor

1994-1995

Clinical Activities

Sub-Investigator for “A Phase II Clinical Trial Evaluating DCVax® – Brain, Autologous Dendritic Cells Pulsed with Tumor Lysate Antigen for the Treatment of Glioblastoma Multiforme” for Northwest Biotherapeutics, Protocol 020221

Research Director and Steering Committee Chair, “Nervous System BioRepository Protocol”, Protocol 13-3007

Sub-Investigator, “Exosomes In Traumatic Brain Injury”, Protocol 13-2605

Sub-Investigator, “Presence of urinary exosomes following head trauma in football players”, Protocol 14-0690

Sub-Investigator, “P2/3 Randomized Study of Toca 511 & Toca FC Versus SOC in Subjects Undergoing Surgery for Recurrent GBM/AA (Toca5)” for Tocagen, Inc. NCT02414165

Primary Investigator, “Searching for Markers of Central Nervous System Extracellular Vesicles”, Protocol 18-1421

**14. Bibliography**

Papers published in peer-reviewed journals

1. Zackson SL, Graner MW, and TL Karr. 1993. Detection of electrophoretic variants of Notch, PS integrin, and DROP-1 proteins in *Drosophila* following extraction in guanidine hydrochloride. Biochem. Biophys. Res. Comm. 194: 490-495. PMID: 8333862
2. Graner M, Stupka K, and TL Karr. 1994. Biochemical and cytological characterization of DROP-1: a widely distributed proteoglycan in *Drosophila*. J. Insect Biochem and Molec. Biol. 24: 557-567. PMID: 8044173
3. Li X, Graner MW, Williams EL, Roote CE, Bunch TA, and S Zusman. 1998. Requirements for the cytoplasmic domain of the PS1, PS2 and PS integrin subunits during *Drosophila* development. Development 125: 701-711. PMID: 9435290
4. Bunch TA, Graner MW, Schneider K, Kershen A, Choy L, Burgess B, and D Brower. 1998. The PS2 integrin ligand Tiggrin is required for proper muscle function in *Drosophila.* Development 125: 1679-1689. PMID: 9521906
5. Graner MW, Bunch TA, Baumgartner S, Kershen A, and DL Brower. 1998. Splice variants of the Drosophila PS2 integrins differentially interact with the RGD-containing fragments of the extracellular proteins Tiggrin, Ten-m, and D-Laminin 2. Journal of Biological Chemistry 273 (29): 18235-18241. PMID: 9660786
6. Graner M, Raymond A, Romney D, He L, Whitesell L, and E Katsanis. 2000. Immunoprotective activities of multiple chaperone proteins isolated from murine B-cell leukemia/lymphoma. Clinical Cancer Research 6: 909-915. PMID: 10741715
7. Graner M, Raymond A, Akporiaye E, and E Katsanis. 2000. Tumor-derived multiple chaperone enrichment by free-solution focusing yields potent antitumor vaccines. Cancer Immunology and Immunotherapy 49: 476-484. PMID: 11092614
8. He L, Feng H, Raymond A, Kreeger M, Zeng Y, Graner M, Whitesell L, and E Katsanis. 2000. Dendritic cell-peptide immunization provides immunoprotection against bcr-abl positive leukemia in mice. Cancer Immunology and Immunotherapy 50:31-40. PMID: 11315508
9. Feng H, Zeng Y, Graner MW, and E. Katsanis. 2002. Stressed apoptotic tumor cells stimulate dendritic cells and induce specific cytotoxic T cells. Blood 100:4108-15. PMID: 12393401
10. Feng H, Zeng Y, Graner MW, Likhacheva A, and E Katsanis. 2003. Exogenous stress proteins enhance the immunogenicity of apoptotic tumor cells and stimulate anti-tumor immunity. Blood 101:245-252. PMID: 12393411
11. Graner MW, Zeng Y, Feng H, and E Katsanis. 2003. Tumor-derived chaperone-rich cell lysates are effective therapeutic vaccines against a variety of cancers. Cancer Immunology and Immunotherapy 52:226-234. PMID: 12669247
12. Zeng Y, Feng H, Graner MW, and E Katsanis. 2003. Tumor-derived, chaperone-rich cell lysate activates dendritic cells and elicits potent antitumor immunity. Blood 101:4485-4491. PMID: 12576309
13. Raynes DA, Graner MW, Bagatell R, McLellan C, and V Guerriero. 2003. Increased expression of the Hsp70 cochaperone HspBP1 in tumors. Tumour Biology 24:281-5. PMID: 15004487
14. Feng H, Zeng Y, Graner MW, Whitesell L, and E Katsanis. 2004. Evidence for a novel caspase 8-indepepndent, Fas-death domain-mediated apoptotic pathway. Journal of Biomedicine and Biotechnology 2004: 41-51. PMID: 15123887
15. Zeng Y, Graner MW, Feng H, Li G, and E Katsanis. 2004. Imatinib mesylate effectively combines with chaperone-rich cell lysates-pulsed dendritic cells to treat *bcr-abl+* murine leukemia. International Journal of Cancer 110: 251-9. PMID: 15069690
16. Graner MW, Likhacheva A, Davis J, Romanoski, MA, Thompson S, Brandenberger J, Raymond A, Akporiaye E, and E Katsanis. 2004. Cargo from tumor-expressed albumin inhibits T-cell activation and responses. Cancer Research 64: 8085-92. PMID: 15520220
17. Zeng Y, Graner MW, Thompson S, Marron M, and E Katsanis. 2005 Induction of bcr-abl specific immunity following vaccination with Chaperone Rich Cell Lysates (CRCL) derived from *bcr-abl* + tumor cells. Blood 105: 2016-22. PMID: 15374884
18. Ramathapuram LV, Hahn T, Graner MW, Katsanis E, and Akporiaye ET. Vesiculated alpha-tocopheryl succinate enhances the anti-tumor effect of dendritic cell vaccines. Cancer Immunology, Immunotherapy 2006 55:166-77 PMID: 16041582
19. [Rich JN, Sathornsumetee S, Keir ST, Kieran MW, Laforme A, Kaipainen A, McLendon RE, Graner MW, Rasheed BK, Wang L, Reardon DA, Ryan AJ, Wheeler C, Dimery I, Bigner DD, Friedman HS.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16299247&query_hl=19&itool=pubmed_docsum) 2005. ZD6474, a novel tyrosine kinase inhibitor of vascular endothelial growth factor receptor and epidermal growth factor receptor, inhibits growth of multiple central nervous system tumors. Clinical Cancer Research, 11:8145-57. PMID: 16299247
20. Chen X, Zeng Y, Li G, Larmonier N, Graner MW, and E Katsanis. 2006. Peritransplantation vaccination with chaperone rich cell lysate (CRCL) induces anti-leukemia immunity. Biology of Blood and Bone Marrow Transplantation 12:275-83. PMID: 16503496
21. [Kuan CT, Wakiya K, Dowell JM, Herndon JE 2nd, Reardon DA, Graner MW, Riggins GJ, Wikstrand CJ, Bigner DD.](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16609006&query_hl=19&itool=pubmed_docsum) 2006. Glycoprotein nonmetastatic melanoma protein B, a potential molecular therapeutic target in patients with glioblastoma multiforme. Clinical Cancer Research, 12:1970-82. PMID: 16609006
22. Sok JC, Coppelli FM, Thomas SM, Lango MN, Xi S, Hunt JL, Freilino ML, Graner MW, Wikstrand CJ, Bigner DB, Gooding WE, Furnari FB, Grandis JR. 2006. Mutant Epidermal Growth Factor Receptor (EGFRvIII) Contributes to Head and Neck Cancer Growth and Resistance to EGFR Targeting. Clinical Cancer Research, 12:5064. PMID: 16951222
23. Li G, Zeng Y, Chen X, Larmonier N, Sepassi M, Marron M, Graner MW, Andreansky S, Brewer MA, Katsanis E. 2007. Human ovarian tumor-derived chaperone-rich cell lysate (CRCL) elicits T cell responses in vitro. Clinical and Experimental Immunology, 148:136-45. PMID: 17349014
24. Kislin KL, Marron MT, Li G, Graner MW\*, and Katsanis E. Chaperone-rich cell lysate embedded with BCR-ABL peptide demonstrates enhanced anti-tumor activity against a murine BCR-ABL positive leukemia. 2007. FASEB Journal, 21:2173-84. (\*corresponding/co-senior author) PMID: 17327358
25. Graner MW, Cumming RI, and Bigner DD. The heat shock response and chaperones/heat shock proteins in brain tumors: surface expression, release, and possible immune consequences. 2007. Journal of Neuroscience, 27: 11214-227. PMID: 17942716
26. Bleifuss E, Bendz H, Sirch B, Thompson S, Brandl A, Milani V, Graner MW, Drexler I, Kuppner M, Katsanis E, Noessner E, Issels R-D. Differential capacity of chaperone-rich lysates in cross presenting human endogenous and exogenous melanoma differentiation antigens. 2008. International Journal of Hyperthermia., 20:1-15. PMID: 18608582
27. Graner MW, Alzate O, Dechkovskaia AM, Keene JD, Sampson JH, Mitchell DA, Bigner DD. Proteomic and immunologic analyses of brain tumor exosomes. 2009. FASEB Journal, 23:1541-57. PMID: 19109410
28. Chen X, Yang Q, Zhang M, Graner MW, Xu L, Zhu X, Larmonier N, Liao M, Yu W, Deng Q, , Zhou B. Diagnosis of Active Tuberculosis in China Using an In-House Interferon-gamma Enzyme-Linked Immunospot Assay. 2009. Clinical and Vaccine Immunology, 16:879-84. PMID: 19339489
29. Chen X, Zhang M, Zhu X, Deng Q, Liu H Larmonier N, Graner MW, Zhou B. Engagement of toll-like receptor 2 on CD4+ T cells facilitates local immune responses in patients with tuberculous pleurisy. 2009. Journal of Infectious Diseases 200:399-408. PMID: 19552525
30. Graner MW, Raynes D, Bigner DD, Guerriero V. Heat Shock Protein 70-Binding Protein 1 is Highly Expressed in High Grade Gliomas, Interacts with Multiple HSP70 Family Members, and Specifically Binds Brain Tumor Cell Surfaces. 2009. Cancer Science Oct; 100 (10):1870-9. PMID: 19659607
31. Chen X, Zhang M, Liao M, Graner MW, Wu C, Liu H, Zhou B. Reduced Th17 responses in patients with tuberculosis correlate with IL-6R expression on CD4+ T cells. 2010. American Journal of Respiratory and Critical Care Medicine, 181 (7): 734-42. PMID: 20019339
32. Zhang M, Wang H, Liao M, Chen X, Zhu X, Graner MW, Zhou B, Chen X. Diagnosis of Latent Tuberculosis Infection in BCG-Vaccinated subjects in China by Interferon-γ Elispot Assay. 2010. International Journal of Tuberculosis and Lung Disease 14 (12):1556-63.
33. Zhang M, Wang H, Graner MW, Yang L, Liao M, Yang Q, Gou J, Zhu Y, Wu C, Liu H, Zhou B, Chen X. B cell infiltration is associated with the increased IL-17 and IL-22 expression in the lungs of patients with tuberculosis. 2011. Cellular Immunol 270 (2):217-23. PMID: 21144240
34. Qiu Z, Zhang, M, Zhu Y, Zheng F, Lu P, Liu L, Graner MW, Zhou B, ChenX. Multifunctional CD4 T Cell Responses in Patients with Active Tuberculosis. Science Reports. 2012. 2:216. PMID: 22355730
35. Zhang M, Zheng X, Zhang J, Zhu Y, Zhu X, Liu H, Graner MW, Zhou B, Chen X. CD19+CD1d+CD5+ B Cell Frequencies Are Increased in Patients with Tuberculosis and Suppress Th17 Responses. Cellular Immunology. 2012. 274(1-2): 89-97 PMID: 22361174
36. Epple LM, Griffiths SG, Dechkovskaia AM, Dusto NL, White J, Ouellette RJ, Anchodoquy TJ, Bemis LT and Graner MW. Medulloblastoma exosome proteomics yield functional roles for extracellular vesicles.2012. PLoS ONE 7(7):e42064 PMID: 22848702
37. Graner MW, Romanoski A, and E Katsanis Peptidomics and proteomics of chaperone-rich cell lysate vaccines and antigens. International Journal of Hyperthermia 2013 May 31. PMID: 23725202
38. Mayer-Sonnenfeld T, Har-Noy M, Lillehei KO, and Graner MW. Proteomic analyses of different human tumor-derived chaperone-rich cell lysate (CRCL) anti-cancer vaccines reveal antigen content and strong similarities amongst the vaccines along with a basis for CRCL’s unique structure. International Journal of Hyperthermia 2013 Jun 4. PMID: 23734882
39. Epple LM, Bemis LT, Cavanagh R, Skope A, Sonnenfeld T, Frank C, Olver CS, Lencioni AM, Dusto NL, Tal A, Har-Noy M, Katsanis E, Lillehei KO, Graner MW. Prolonged remission of advanced bronchoalveolar adenocarcinoma in a dog treated with autologous, tumor-derived chaperone-rich cell lysate (CRCL) vaccine. International Journal of Hyperthermia 2013 Jun 20. PMID: 23786302
40. Redzic JS, Kendrick AA, Bahmed K, Dahl KD, Pearson CG, Robinson WA, Robinson SE, Graner MW and Eisenmesser EZ. Extracellular vesicles secreted from cancer cell lines stimulate multiple pro-oncogenic factors. PLoS ONE 2013 Aug 1;8(8):e71225. doi: 10.1371/journal.pone.0071225 PMID: 23936495
41. Epple LM, Dodd RD, Merz AL, Dechkovskaia AM, Herring M, Winston BA, Lencioni AM, Russell RL, Madsen H, Nega M, White J, Bigner DD, Nicchitta CV, Serkova NJ, Graner MW. Induction of the unfolded protein response drives enhanced metabolism and chemoresistance in glioma cells. PLoS ONE 2013, Aug 15; 8 (8):e73267 doi: 10.1371/journal.pone.0073267 PMID: 24039668
42. Ramteke A, Ting H, Agarwal C, Mateen S, Haq A, Graner M, Barbara F, Agarwal R, Deep G. Exosomes Secreted under Hypoxia Enhance Invasiveness and Stemness of Prostate Cancer Cells by Targeting Adherens Junction Molecules. Molecular Carcinogenesis, 2015 Jul;54(7):554-65. doi: 10.1002/mc.22124. Epub 2013 Dec 17. PMID: 24347249
43. Liao M, Yang Q, Zhang J, Zhang M, Deng Q,Liu H, Graner MW, Kornfeld H, Zhou B, Chen X. Gamma Interferon Immunospot Assay of pleural Effusion Mononuclear Cells for Diagnosis of Tuberculous Pleurisy. Clinical and Vaccine Immunology, 2014. 21(3):347-353. PMID: 24391138
44. Ung TH, Madsen HJ, Hellwinkel JE, Lencioni AM, Graner MW. Exosome proteomics reveal transcriptional regulator proteins with potential to mediate disease progression. Cancer Sci. 2014 Nov;105(11):1384-92. doi: 10.1111/cas.12534. PMID: 25220623
45. Smyth T, Petrova K, Payton NM, Persaud I, Redzic JS, Graner MW, Smith-Jones P, Anchordoquy TJ. Surface functionalization of exosomes using click chemistry. Bioconjugate Chemistry, 2014 Oct 15;25(10):1777-84. doi: 10.1021/bc500291r. PMID: 25220352.
46. Smyth TJ, Redzic JS, Graner MW, Anchordoquy TJ. Examination of the specificity of tumor cell derived exosomes with tumor cells in vitro. Biochim Biophys Acta. 2014 Nov;1838(11):2954-65. doi: 10.1016/j.bbamem.2014.07.026. PMID: 25102470.
47. Smyth T, Kullberg M, Malik N, Smith-Jones P, Graner M, Anchordoquy T. Biodistribution and delivery efficiency of unmodified tumor-derived exosomes. Journal of Controlled Release, 2015 Feb 10;199:145-55. doi: 10.1016/j.jconrel.2014.12.013. Epub 2014 Dec 16. PMID: 25523519
48. Yu Y, Jin D, Hu S, Zhang Y, Zheng X, Liao M, Chen X, Graner M, Jin Q, Liu H. A novel tuberculosis antigen identified from human tuberculosis granulomas. Mol Cell Proteomics, 2015 Jan 20. pii: mcp.M114.045237. [Epub ahead of print] PMID: 25605460
49. Schlaepfer IR, Nambiar D, Ramteke A, Kumar R, Dhar D, Agarwal C, Bergman B, Graner M, Maroni P, Singh RP, Agarwal R, Deep G. Hypoxia induces triglycerides accumulation in prostate cancer cells and extracellular vesicles supporting growth and invasiveness following reoxygenation. Oncotarget 2015 Jun 15. [Epub ahead of print]. PMID: 26087400
50. Hellwinkel JE, Redzic JS, Harland TA, Gunaydin D, Anchordoquy TJ, Graner MW. Glioma-derived extracellular vesicles selectively suppress immune responses 2015. Neuro-Oncology Apr;18(4):497-506. doi: 10.1093/neuonc/nov170. Epub 2015 Sep 18. PMID: 26385614
51. Redzic JS, Gomez JD, Hellwinkel JE, Anchordoquy TJ, Graner MW. Proteomic Analysis of Brain Tumor Cell Lines Amidst the Unfolded Protein Response. Oncotarget 2016 Jun 14. doi: 10.18632/oncotarget.10032 PMID: 27323862
52. Graner AN, Hellwinkel JE, Lencioni AM, Madsen HJ, Harland TA, Marchando P, Nguyen GJ, Wang M, Russell LM, Bemis LT, Anchordoquy TJ, Graner MW. HSP90 inhibitors in the context of heat shock and the unfolded protein response: effects on a primary canine pulmonary adenocarcinoma cell line. Int J Hyperthermia. 2016 Dec 20:1-15. doi: 10.1080/02656736.2016.1256503. [Epub ahead of print] PMID 27829290
53. Zhou K, Spillman MA, Behbakht K, Komatsu JM, Abrahante JE, Hicks D, Schotl B, Odean E, Jones KL, Graner MW, Bemis LT. A method for extracting and characterizing RNA from urine: For downstream PCR and RNAseq analysis. Anal Biochem. 2017 Aug 10. pii: S0003-2697(17)30335-4. doi: 10.1016/j.ab.2017.08.003. [Epub ahead of print] PMID: 28803886
54. Neudecker V, Brodsky KS, Clambey ET, Schmidt EP, Packard TA, Devenport B, Standiford TJ, Weng T, Fletcher AA, Barthel L, Masterson JC, Furuta GT, Blackburn MR, Ginde AA, Graner MW, Jannsen WJ, Zemans RL, Burnham EL, Homann D, Moss M, Kreth S, Zacharowski K, Henson PM, Eltzschig HK. Neutrophil-epithelial miR-223 shuttling dampens acute lung injury. Sci Transl Med. 2017 Sep 20;9(408). pii: eaah5360. doi: 10.1126/scitranslmed.aah5360. PMID: 28931657
55. Contreras-Zarate MJ, Ormond DR, Gillen AE, Hanna C, Day NL, Serkova NJ, Jacobsen BM, Edgerton SM, Thor AD, Borges VF, Lillehei KO, Graner MW, Kabos P, Citelly DM. Development of Novel Patient Derived Xenografts from Breast Cancer Brain Metastases. Frontiers in Oncology – Neuro-Oncology and Neurosurgical Oncology 2017 Nov 2;7:252. doi: 10.3389/fonc.2017.00252. eCollection 2017. PMID: 29164052
56. Oushy S\*, Hellwinkel JE\*, Wang M\*, Nguyen GJ, Gunaydin D, Harland TA, Anchordoquy TJ, Graner MW. Glioblastoma multiforme-derived extracellular vesicles drive normal astrocytes towards a tumour-enhancing phenotype. Phil Trans Roy Soc B, Biol Sci. 2018 Jan 5;373(1737). pii: 20160477. doi: 10.1098/rstb.2016.0477. PMID: 29158308 (\* equal contributions)
57. Beseler C, Vollmer T, Graner M, Yu X. The complex relationship between oligoclonal bands, lymphocytes in the cerebrospinal fluid, and immunoglobulin G antibodies in multiple sclerosis: indication of serum contribution. PLoS ONE Oct 23; 12(10): e0186842. doi: 10.1371/journal.pone.0186842. eCollection 2017. PMID: 29059249
58. The Potential of Exosomes from Cow Milk for Oral Delivery. Betker JL, Angle BM, Graner MW, Anchordoquy TJ. Journal of Pharmaceutical Sciences. 2019 Apr;108(4):1496-1505. doi: 10.1016/j.xphs.2018.11.022. Epub 2018 Nov 20. [Epub ahead of print] PMID: 30468828 (“Featured Article” on JPharmSci website April 2019)
59. Oligoclonal IgG Antibodies in Multiple Sclerosis Target Patient-Specific Peptides.

Graner M, Pointon T, Manton S, Green M, Dennison K, Davis M, Braiotta G, Craft J, Edwards T, Polonsky B, Fringuello A, Vollmer T, Yu X. PLoS One. 2020 Feb 21;15(2):e0228883. doi: 10.1371/journal.pone.0228883. eCollection 2020. PMID: 32084151

1. Varicella-Zoster Virus infected human neurons are resistant to apoptosis. Kennedy PGE\*, Graner MW\*, Gunaydin D, Bowlin J, Pointon T, Yu X. J Neurovirol. 2020 Mar 3. doi: 10.1007/s13365-020-00831-6. [Epub ahead of print] \*Co-First Author PMID: 32125664
2. Exosome Isolation by Ultracentrifugation and Precipitation: A Comparison of Techniques for Downstream Analyses. Coughlan C, Bruce K, Burgy O, Boyd TD, Michel CR, Garcia-Perez JE, Adame V, Anton P, Bettcher BM, Chial HJ, Koenigshoff M, Hsieh EWY, Graner M, Potter H. Curr Protoc Cell Biol. 2020 Sep;88(1):e110. doi: 10.1002/cpcb.110. PMID: 32633898
3. Recombinant antibodies derived from laser captured single plasma cells of multiple sclerosis brain identified phage peptides which may be used as tools for characterizing intrathecal IgG response. Kennedy PGE, Graner MW, Walker D, Pointon T, Fringuello A, Yu X. J Neuroimmunol. 2020 Jul 14;347:577319. doi: 10.1016/j.jneuroim.2020.577319. Online ahead of print. PMID: 32717427
4. Antibodies from multiple sclerosis brain identified Epstein-Barr virus nuclear antigen 1 & 2 epitopes which are recognized by oligoclonal bands. Wang Z, Kennedy PGE, Dupree C, Wang M, Lee C, Pointon T, Langford TD, Graner MW\*, Yu X\*. J Neuroimmune Pharmacol. 2020 Aug 18. doi: 10.1007/s11481-020-09948-1. Online ahead of print. \*Co-Senior Author PMID: 32808238
5. Aberrant Immunoglobulin G Glycosylation in Multiple Sclerosis. Kennedy PGE\*, Graner M\*, Pointon T, Li X, Tanimoto K, Dennison K, Im G, Fringuello A, Zhou W, Graner A, Sillau S, Vollmer T, Yu X. J Neuroimmune Pharmacol May 3 2021. doi: 10.1007/s11481-021-09996-1. Online ahead of print. PMID: 33942224 \*Co-First Author
6. High-Throughput Mechanistic Screening of Epigenetic Compounds for the Potential Treatment of Meningiomas. Tatman PD, Wroblewski TH, Fringuello AR, Scherer SR, Foreman WB, Damek DM, Lillehei K, Youssef AS, Jensen RL, Graner MW\*, Ormond DR.\* Journal of Clinical Medicine 2021 Jul 16;10(14):3150. doi: 10.3390/jcm10143150. PMID: 34300316 \* Co-senior author.
7. Cytokine-Laden Extracellular Vesicles Predict Patient Prognosis after Cerebrovascular Accident. Fringuello A, Tatman PD, Wroblewski T, Thompson TA, Yu X, Lillehei KO, Kowalski RG, Graner MW. International Journal of Molecular Sciences 2021 Jul 22;22(15):7847. doi: 10.3390/ijms22157847. PMID: 34360613
8. Higher levels of IgG3 antibodies in serum, but not in CSF, distinguish multiple sclerosis from other neurological disorders. Kennedy PGE\*, Graner MW\*, Fringuello A, Zhou W, Pointon T, Aliquati K, Bisel S, Langford D, Yu X. J Neuroimmune Pharmacol. 2022 Jan 6. doi: 10.1007/s11481-021-10048-x. Online ahead of print. PMID: 34989971\*Co-first author.
9. Targeting DNA Methyl Transferases with Decitabine in Cultured Meningiomas. Tatman PD, Wroblewski TH, Fringuello AR, Scherer SR, Foreman WB, Damek DM, Lillehei K, Jensen RL Youssef AS, Ormond DR\*, Graner MW\*. World Neurosurgery 2022 Jun;162:e99-e119. doi: 10.1016/j.wneu.2022.02.108. Epub 2022 Mar 3.

PMID: 35248772. \* Co-senior author.

1. High-throughput screening of epigenetic inhibitors in meningiomas identifies HDAC, G9a, and Jumonji-domain inhibition as potential therapies. Tatman PD, Wroblewski TH, Fringuello AR, Scherer SR, Foreman WB, Damek DM, Lillehei K, Jensen RL Youssef AS, , Graner MW\*, Ormond DR\*. Journal of Neurological Surgery B – Skull Base. \*Co-senior author. IN PRESS
2. Glioblastoma extracellular vesicle specific peptides inhibit EV-induced neuronal cytotoxicity. Zhou W, Craft J, Ojemann A, Bergen L, Graner A, Gonzales A, He Q, Kopper T, Smith M, Graner MW\*, Yu X\*. \*Co-senior author. International Journal of Molecular Sciences Jun 28;23(13):7200. doi: 10.3390/ijms23137200 PMID: 35806205
3. Phenotype and neuronal cytotoxic function of glioblastoma extracellular vesicles. Zhou W, Lovasz D, Zizzo Z, He Q, Coughlan C, Kowalski RG, Kennedy PGE, Graner A, Lillehei KO, Ormond DR, Youssef AS, Graner MW\*, Yu X\* \* Co-senior author. Biomedicines. 2022 Oct 27;10(11):2718. doi: 10.3390/biomedicines10112718. PMID: 36359238
4. Rapid Activation of Neuroinflammation in Stroke: Plasma and Extracellular Vesicles Obtained on a Mobile Stroke Unit. Kowalski RG, Ledreux A, Violette JE, Neumann RT, Ornelas D, Yu X, Griffiths SG, Lewis S, Nash P, Monte AA, Coughlan CM, Deighan C, \*Grotta JC, \*Jones WJ, \*Graner MW \*Co-senior authors. Stroke IN PRESS

Review Articles (peer-reviewed)

1. Graner MW, and DD Bigner. 2005. Chaperone proteins in brain tumors: potential targets and possible therapeutics. Neuro-Oncology 7:260-78. PMID: 16053701
2. Graner MW and DD Bigner. Therapeutic aspects of chaperones/heat shock proteins in neuro-oncology. Invited Review, Expert Reviews in Anticancer Therapy. 2006. 6:679-95. PMID: 16759160
3. Zeng Y, Graner MW,\* and E Katsanis. Chaperone-Rich Cell Lysates (CRCL) anti-tumor vaccination and immune activation. Symposium in Writing on Thermal Stress Related Modulation of Tumor Cell Physiology and Immune Responses; Invited Review, Cancer Immunology, Immunotherapy 2006 55:329-338 (\* co-first author) PMID: 15887013
4. Everson RG, Graner MW, Gromeier M, Vrendenburgh JJ, Desjardins A, Reardon DA, Friedman HS, Friedman AH, Bigner DD, Sampson JH. Invited Review, Immunotherapy against angiogenesis-associated targets: evidence and implications for the treatment of malignant glioma. Expert Reviews in Anticancer Therapy. 2008. 5:717-32 PMID: 18471045
5. Vega EA, Graner MW, Sampson JH. Combating immunosuppression in malignant glioma. Invited Review, Future Oncology. 2008. 4:433-42 PMID: 18518768
6. Marshall D, Mitchell DA, Graner MW\*, Bigner DD. Immunotherapy of Brain Tumors. 2012. 104:309-30. In “Handbook of Clinical Neurology: Neuro-Oncology”, W Grisold and R Soffietti, eds, Elsevier, UK. (\*corresponding author) PMID: 22230450
7. Graner MW The unfolded protein response in glioblastomas: passing the stress test. Invited Editorial; CNS Oncology, 2013, 2 (6): 465-467 PMID: 25054814
8. Redzic JS, Ung TH, Graner MW Glioblastoma extracellular vesicles: reservoirs of potential biomarkers. Invited Review, Pharmacogenomics and Personalized Medicine. 2014. 7:65-77. PMID: 24634586
9. Graner MW, Lillehei KO, Katsanis E. Endoplasmic reticulum chaperones and their roles in the immunogenicity of cancer vaccines. Invited Review 2015 Jan 6;4:379. doi: 10.3389/fonc.2014.00379. eCollection 2014. PMID: 25610811
10. Yanez-Mo M, Silander P, and 58 others. Biological Properties of Extracellular Vesicles and Their Physiologic Functions. Journal of Extracellular Vesicles, 2015 May 14;4:27066. doi: 10.3402/jev.v4.27066. eCollection 2015. PMID: 25979354
11. Graner MW The Unfolded Protein Response (UPR) in Glioblastomas: Targetable or Trouble? Invited Review, Future Science OA, (2015) FSO45, eISSN 2056-5623, 28 July 2015 <http://www.future-science.com/doi/full/10.4155/fso.15.45> PMID 28031873
12. Graner MW HSP90 and Immune Modulation in Cancer. Invited Review, Advances in Cancer Research 2016;129:191-224.doi:10.1016/bs.acr.2015.10.001.Epub2015 Nov 3. <http://www.sciencedirect.com/science/article/pii/S0065230X15000962> PMID 26916006
13. Kunigelis KE and Graner MW. The dichotomy of tumor exosomes (TEX) in cancer immunity: Is it all in the conTEXt? Vaccines (Basel) 2015 Dec 17;3(4):1019-51. doi: 10.3390/vaccines 3041019 PMID: 26694473
14. Graner MW, Schnell S, and Olin MR. Tumor-Derived Exosomes, microRNAs, and Cancer Immune Suppression. Invited review. Seminars in Immunopathology 2018 Jun 4. doi: 10.1007/s00281-018-0689-6. [Epub ahead of print] Review. PMID: 29869058
15. Graner MW Extracellular Vesicles in Cancer Immune Responses: Roles of Purinergic Receptors. Invited review. Seminars in Immunopathology 2018 Sep 12. doi: 10.1007/s00281-018-0706-9. [Epub ahead of print] Review. PMID: 30209547
16. Graner MW Roles of Extracellular Vesicles in High-Grade Gliomas: Tiny Particles with Outsized Influence. Annual Review Genomics and Human Genetics. 2019 Apr 12. doi: 10.1146/annurev-genom-083118-015324. [Epub ahead of print] PMID: 30978305
17. Yu X, Graner M, Kennedy PGE, Liu Y. The Role of Antibodies in the Pathogenesis of Multiple Sclerosis. Frontiers in Neurology (section: Multiple Sclerosis and Neuroimmunology) 2020 Oct 20;11:533388. doi: 10.3389/fneur.2020.533388. eCollection 2020. PMID: 33192968

Book Chapters; Commentaries/Previews; Reports; Editorials

1. Graner MW, and E Katsanis. Chaperone proteins/heat shock proteins as anti-cancer vaccines. In “Handbook of Cancer Vaccines”, MA Morse, TM Clay, and HK Lyerly, eds. 2004. Humana Press, Totowa, NJ, USA (peer reviewed)
2. Gullo CA, Macary P, and Graner M. Heat shock proteins in infection and immunity. In "Heat Shock Proteins: Potent Mediators of Inflammation and Immunity" A De Maio and AAA Asea, eds. 2007. Springer-Verlag, NY USA (peer reviewed)
3. Graner, MW Brain Tumor Exosomes and Microvesicles: Pleiotropic Effects from Tiny Cellular Surrogates. 2012. In “Molecular Targets of CNS Tumors” ISBN 978-953-307-736-9. M Garami, editor. InTech Open Access Publisher (peer reviewed) <http://www.intechopen.com/articles/show/title/brain-tumor-exosomes-and-microvesicles-pleiotropic-effects-from-tiny-cellular-surrogates> Had > 1000 downloads as of Oct 2013
4. Graner MW, Epple LM, Dusto NL, Lencioni AM, Nega M, Herring M, Winston B, Madsen H, Bemis LT, Anchordoquy TJ. “Circulating exosomes as new biomarkers for brain disease and injury,” in *Sensing Technologies for Global Health, Military Medicine, and Environmental Monitoring III*, edited by Sarka O. Southern, Proceedings of SPIE Vol. 8723 (SPIE, Bellingham, WA, 2013) 87230R (peer reviewed)
5. Oushy S, Graner MW. Immunology and Immunotherapy in Brain Tumors: Immune Failure and Potential Counteractions. In “Molecular Considerations and Evolving Surgical Management Issues in the Treatment of Patients with a Brain Tumor”, ISBN 978-953-51-2031-5, 2015. T Lichtor, editor. InTech Open Access Publisher <http://www.intechopen.com/books/molecular-considerations-and-evolving-surgical-management-issues-in-the-treatment-of-patients-with-a-brain-tumor/immunology-and-immunotherapy-in-brain-tumors-immune-failure-and-potential-counteractions>
6. Madsen H, Hellwinkel JE, Graner MW. Clinical Trials in Glioblastoma: Designs and Challenges. In “Molecular Considerations and Evolving Surgical Management Issues in the Treatment of Patients with a Brain Tumor”, ISBN 978-953-51-2031-5, 2015. T Lichtor, editor. InTech Open Access Publisher

<http://www.intechopen.com/books/molecular-considerations-and-evolving-surgical-management-issues-in-the-treatment-of-patients-with-a-brain-tumor/clinical-trials-in-glioblastoma-designs-and-challenges>

1. Hellwinkel JE, Madsen H, Graner MW. Immune Modulation by Tumor-Derived Extracellular Vesicles in Glioblastoma. In “Molecular Considerations and Evolving Surgical Management Issues in the Treatment of Patients with a Brain Tumor”, ISBN 978-953-51-2031-5, 2015. T Lichtor, editor. InTech Open Access Publisher <http://www.intechopen.com/books/molecular-considerations-and-evolving-surgical-management-issues-in-the-treatment-of-patients-with-a-brain-tumor/immune-modulation-by-tumor-derived-extracellular-vesicles-in-glioblastoma>
2. Graner MW. B Cell Exosomes / Extracellular Vesicles as Vehicles of B Cell Antigen Presentation: Implications for Cancer Vaccine Therapies. 2018. In “Diagnostic and Therapeutic Applications of Exosomes in Cancer” 1st Edition. Edited By Drs. Mansoor M. Amiji and Rajagopal Ramesh. Elsevier; Academic Press (peer reviewed) <http://books.elseviereproof.tnq.co.in.s3.amazonaws.com/ECOMPS/0915b4388889a91cb609167632eeee93/AMIJI_9780128128046.pdf>
3. Graner M. V-ATPase expression in gliomas-Not your grandparents' proton pump. EBioMedicine. 2019 Feb 23. pii: S2352-3964(19)30122-7. doi: 10.1016/j.ebiom.2019.02.044. [Epub ahead of print] No abstract available.

PMID: 30808578

<https://www.sciencedirect.com/science/article/pii/S2352396419301227?via%3Dihub>

1. Graner MW. Conference Report: A Report on ASEMV2020. Extracellular Vesicles and Circulating RNA (EVCNA). <https://evcna.com/article/view/3837>
2. Graner MW. Making HSP90 Inhibitors Great Again? Unite for Better Cancer Immunotherapy. Preview in Cell Chem Biol. 2021 Feb 18;28(2):118-120. doi: 10.1016/j.chembiol.2021.02.002.PMID: 33607004 <file:///C:/Users/grane/Downloads/1-s2.0-S2451945621000544-main.pdf>
3. Uphaus T, Audebert HJ, Graner MW, Tiedt S, Kowalski RG. Editorial: Blood-Based Biomarkers in Acute Ischemic and Hemorrhagic Stroke. Frontiers in Neurology; Section: Stroke 2022 Feb 24;13:866166. doi: 10.3389/fneur.2022.866166. eCollection 2022 PMID: 35280278
4. Russell AE, Sil S, Buch S, Graner MW. A Report on ASIC2021. Extracellular Vesicles and Circulating RNA (EVCNA) IN PRESS

**15. Community Service**

1. “Band Aid” (Volunteer Assistant) for the Mile High Freedom Band, 2010-2021 (voted “Band Aid of the Year” in 2010 and 2012)

2. Band Volunteer for Grandview High School “Wolf Pride” Marching Band, 2012 to 2017

3. Volunteer for Project C.U.R.E., 2014

4. Foster care for US Military Officer’s canines, Dec 2017 to Nov 2019

5. Just a Girl Moving Dogs Volunteer Transport Team, 2020-2021

6. Foster care for US Military Officer’s canines, Apr 2022 to July 2022

7. Many Paws Volunteer Dog Transport Team, 2020-2023