GRANT SUPPORT

a) Qu as the PI or subcontract to UB PI

Active:

38. 19082UB (Qu) **Role: PI** **2/1/2020-1/31/2023** **0.5 calendar**
DOD subcontract **DC to Qu Lab: $103,669**

Neuroinflammation-related phosphoprotein signaling pathways as potential therapeutic targets for GWI using an established animal model. The goal of these studies is to investigate the phosphorylation in brains of animal model with a novel method.

37. AG068168 (Moore) **Role: sub-PI** **9/15/2020-4/30/2025** **0.1 calendar**
NIH **DC to Qu Lab: $78,503**

Extracellular Vesicle treatment and age-related neuropathology in non-human primates The goal of these studies is to investigate the effect of EV treatment in aged female rhesus monkeys, using proteomics methods.

36. 1U01DK124020(Qian) **Role: sub-PI** **9/20/2019-7/31/2023** **0.6 calendar**
NIH **DC to Qu Lab: $323,014**

MULTIPLEX MASS SPECTROMETRIC PROTEIN ASSAYS FOR PRECISE MONITORING OF THE PATHOPHYSIOLOGY OF OBESITY The goal of these studies is to develop reliable multiplex protein assays that can be easily implemented in clinical laboratories to enable precise monitoring of many hormones and inflammatory markers closely associated with obesity.

35. W81XWH1910805(Qu) **Role: PI** **9/15/2019-9/14/2023** **0.6 calendar**
DOD **DC to Qu Lab: $526,068**

The Network Biology of Pathogen-Host Interactions Driving Exacerbation in Chronic Obstructive Pulmonary Disease The goal of these studies is to develop a novel proteomics pipeline to procure large dataset for surveying COPD clinical samples for modeling purpose.

34. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2019-8/31/2023** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $78,000**

A 3D-printed micro-scaffold for MS Imaging and Spatially Resolved Determination of Mab and Receptors in Tissues.
The goal of these studies is to develop a novel micro-scaffold for compartmentalized digestion and sample treatment, to enable reliable MS imaging and to create the density map of drug and targets.

33.GSK Research (Qu) **Role: PI** **8/1/2019 – 7/31/2022** **0.2 calendar**
Pharma Research grant **DC to Qu Lab *:* $200,000**

Novel LC-MS strategies for comprehensive in vivo investigations of antibody-drug conjugates and toxicity biomarkers. The purpose of this grant is to develop novel proteomics-based strategy to discover novel proteases in the interstitial space and cellular compartments.

32.AbbVie SRA (Qu) Role: PI 7/1/2019 – 12/31/2021 0.2 calendar
Pharma Research grant DC to Qu Lab *:* $140,000

Novel cancer-related proteases. The purpose of this grant is to develop novel proteomics-based strategy to discover novel proteases in the interstitial space and cellular compartments.

31.CA234775 (multiple) Role: PI 12/1/2018 – 11/30/2020 0.24 calendar
NIH DC to Qu Lab *:* $110,000

LARGE-SCALE PROTEOME-WIDE ANALYSIS WITH HIGH ACCURACY/PRECISION TO GUIDE PANCREATIC CANCER THERAPY DEVELOPMENT. The purpose of this grant is to develop novel proteomics-based method to quantitatively analyze drug-responsive proteins in PDX models.

30.CA224434 (Qu) Role: Subcontract PI 05/15/2018 – 4/30/2023 0.24 calendar
NIH DC to Qu Lab *:* $86,500

GMPS-GMPR AXIS MELANOMA PROGRESSION AND THERAPY. Qu's role is to research on the quantitative interactome method to discovery novel interactor of different GMPR isoforms in various biological systems.

29. Center for Protein Therapeutics (Qu) Role: PI 9/1/2017-8/31/2019 0 calendar
Peer-reviewed Industry Consortium Funds DC to Qu Lab: $78,000

Spatially Resolved Determination of Mab and Receptors in Tissues.
The goal of these studies is to develop novel sample treatment methods and cutting-edge LC/MS techniques to enable ultra-sensitive analysis of bi-specific antibodies and receptors in a spatial manner, to create the density map of drug and targets.

28. Amgen Research grant (Qu) Role: PI 4/6/2017 - 4/5/2018 0.5 calendar
DC to Qu Lab: $54,044

Membrane Receptors as Potential Therapeutic Target
This project proposes to push the analytical sciences for the general analysis of membrane receptors. We will develop and optimize novel LC/MS-based technologies to quantitatively investigate specific cell surface receptors that may serve as potential drug targets. These molecules are of low abundance and hydrophobic, representing a daunting challenge for current analytical techniques.

27. AI129518 (Zand) Role: Subcontract PI 2/1/2017 - 1/31/2022 0.5 calendar
NIH DC to Qu Lab: $302,935

Modeling Mechanisms of Adjuvanted Influenza Vaccine Induced IgG Repertoire Diversity and Heterosubtypic Immunity
This project proposes to investigate how a new vaccine, which contains the adjuvant (immune system booster) MF59, increases the range of influenza antibodies binding to molecularly different influenza strains. My lab will use a combination of data from mice and human subjects, combined with mathematical modeling, to test hypotheses about how antibodies that bind different influenza strains arise.

26. U24DK11234 (Adkins) **Role: Subcontract PI** **1/1/2017 - 2/31/2021** **0.5 calendar**
NIH **DC to Qu Lab: $120,000**

Promotr: A Proteomics Center for Motrpac

The proposed research aims to provide a comprehensive map of the protein "molecular transducers" that transmit the health benefits of physical activity by applying high throughput proteomics technologies. This project will be accomplished by a team and facility with an excellent record of accomplishment applying and developing advanced mass spectrometry-based workflows and pipelines for proteomics research for human health applications. My lab will be responsible for the development of high-throughput LC-MS strategy for method validation.

Completed

25. UCB scientific research grant (Qu) **Role: PI** **12/1/2016 - 6/30/2018** **0 calendar**
UCB of UK **DC to Qu Lab: $100,000**

Urine Metabolite Biomarkers for Renal Fibrosis

The goal of this scientific research grant is to establish a series of di-peptide metabolites for staging renal fibrosis caused by kidney diseases and for evaluating of therapeutic efforts. Novel preparation, treatment and analytical methods will be developed advance this important field.

24. R41 GM121174 (Qu, Aletta) **Role: co-PI** **9/1/2016-8/31/2018** **0.5 calendar**
STTR **DC to Qu Lab: $56,000 (phase-I)**

Drug Discovery Platform for Protein Arginine Methyltransferase Inhibitors

The long-term objective of this project is the generation of a universal drug discovery platform based on protein arginine methylation mechanisms involved in human disease.

23. BX002659 VA (multiple) **Role: co-PI** **10/1/15-9/30/19** **0.6 calendar**
Department of Veterans Affairs **DC to Qu Lab: $94,600**

Dynamic Remodeling from Reversible Ischemia and Sudden Cardiac Arrest

The central hypothesis of this proposal is that ischemia-induced adaptations resulting from the progression of a coronary stenosis leads to dynamic molecular remodeling that transiently increases the vulnerability to VT/VF during sympathetic activation. My lab employs proteomics technique to characterize the dysregulations during brief ischemia and arrhythmia in swine models.

22. La-Roche scientific research grant (Qu) **Role: PI** **12/1/2015 - 11/30/2018** **0 calendar**
Roche-Pharmaceuticals EPBA1902731A17 **DC to Qu Lab: $300,000**

A High-Throughput LC/MS Method for Quantification of Biotherapeutics

The goal of this scientific research grant is to push the limit of bioanalytical sciences and develop novel high-throughput, ultra-sensitive and robust methods for targeted protein quantification and address the challenges in biotherapeutics investigation.

21. Center for Protein Therapeutics (Qu)	**Role: PI**	**9/1/2016-8/31/2017**	**0 calendar**
Peer-reviewed Industry Consortium Funds	**DC to Qu Lab: $158,000**		

Characterization of Plasma PK and Tumor Penetration of Bi-Specific Antibodies Using LC/MS.

The goal of these studies is to develop novel sample treatment methods and cutting-edge LC/MS techniques to enable ultra-sensitive analysis of bi-specific antibodies, and to investigate the tumor penetration, B-cell and T-cell recruitment, activation and depletion.

20. CTSA (Qu) **Role: PI** **7/1/2016-6/30/2017** **0 calendar**
UB-CTSA Award **DC to Qu Lab: $50,000**

Novel Circulating Biomarkers for Sudden Cardiac Death

The goal of this grant is to develop targeted LC/MS methods to validate highly promising candidates predictive of the risk of sudden Cardiac arrest.

19. MCR grant (Qu) **Role: PI** **6/1/2014 - 5/30/2017** **0 calendar**
Murdoch Children's Research Institute **DC to Qu Lab: $60,000**

Vitamin D and Children's Diabetes

The goal is to provide a seed grant to explore the relationship of Vitamin D level and children diabetes.

18. 12SDG9450036 (Qu) **Role: PI** **1/1/2012 - 12/31/2016** **2.4 calendar**
AHA **DC to Qu Lab: $278,766**

Biomarker Release after Reversible Ischemia

The goal is to characterize the cTnI release and modification after reversible myocardial injury in large animal models.

17. U54HD071594 (Qu) **Role: Core PI** **9/30/2011-8/31/2016** **0.6 calendar**
NIH **DC to Qu Lab: $202,937**

Proteomics, Bioanalysis and Bioinformatics Core-E. New York Pediatric Developmental Pharmacology Research Consortium.

The goal is to perform proteomics biomarker discovery of ROP in clinical investigations.

16. Athenex contract (Qu) **Role: PI** **1/7/2010-12/31/2016** **0 calendar**
Athenex Inc. #641624 **DC to Qu Lab: $393,882**

Corporal Research Program with Athenex

The goals of this collaborative research grant are i) support the proteomics efforts to elucidate the action mechanisms of new anti-cancer drug candidates and ii) development of a novel Optimized Photo Affinity cleavable linker (OPAL)-LC/MS/ETD technique to find the smoking-gun evidence of drug-protein binding in vivo.

15. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2015-8/31/2016** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $158,000**

Characterization of ADC in Tissues and Study of MAb Catabolism/Metabolism.

The goal of these studies is to use cutting-edge LC/MS techniques to investigate the tissue distributions of ADC as well as elucidation of the catabolism mechanisms of SC injection.

14. UB CAT (Qu) **Role: PI** **7/1/2013 - 6/30/2016** **0 calendar**
UB **DC to Qu Lab: $6,358**

Enrichment Toolkit for Proteomic Biomarkers

The goal is to develop a commercial kit for the analysis of arginine methylation in clinical samples.

13. Merrimack Research Contract (Qu) **Role: PI** **12/1/2014 - 10/30/2015** **0 calendar**
Merrimack Pharma **DC to Qu Lab: $22,540**

Extensive Investigation of Protein Binding in Liposome Preparations
The goal is to use proteomics to find binding partners novel liposome dosage forms.

12. SUNY Cooperate Fund (Qu) **Role: PI** **6/1/2014 - 5/30/2015** **0 calendar**
Center for Hearing and Deafness **DC to Qu Lab: $12,500**

Brain Network: Membrane Permeable Transcriptional Regulators for Retinal Repair
The goal is to use proteomics to find biomarkers for retinal cell differentiation.

11. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2012-8/31/2017** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $235,000**

Highly Accurate and Reliable Quantification of Mab Distribution in Various Tissues.
This project addresses some fundamental challenges for investigation of mAb tissue distribution by a LC/MS-based method.

10. CTSA120077 (Qu) **Role: PI** **8/1/2010-7/31/2011** **0 calendar**
UB-CTSA Award **DC to Qu Lab: $50,000**

Proteomics Investigation of Laser Micro-Dissected Autopsy Samples from Prostate Cancer Patients
The project aims to develop robust, quantitative, accurate, and sensitive proteomic strategies by which to analyze protein biomarker expression patterns in LMD samples obtained by biopsy of CaP patients.

9. W81XWH-10-1-0728 (Qu) **Role: co-PI** **10/1/2010-9/30/2012** **0.6 calendar**
DOD **DC to Qu Lab: $76,651**

Gene-Environmental Interactions in Progression of Multiple Sclerosis
The goal is to characterize the relationship between Vitamin D metabolites and progression of multiple sclerosis using a LC/MS-based strategy.

8. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2011-8/31/2012** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $79,000**

Accurate and Sensitive Quantification of Therapeutic MAbs by Trapping-Micro-LC/MS and Stable-Isotope-Labeled, Full-Length Proteins.
This project seeks to understand the prominent problem of poor absolute accuracy associated with LC/MS-based quantification of therapeutic proteins.

7. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2011-8/31/2012** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $79,000**

Investigation of Levels of FcRn in Various Tissues.
This project seeks to develop a method for accurate and sensitive quantification of FcRn, a molecule that is critical for the PK of mAb, by an efficient precipitation/on-pellet-digestion method, a Trapping-micro-LC/MS and stable-isotope dilution.

6. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2010-8/31/2011** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $79,000**

Sensitive and Robust MAb Quantification by Nano-LC/MS.
This project develops and evaluates a novel nano-LC/MS-based method for the investigation of mAb in various pharmaceutical matrices, which is highly sensitive and reasonably robust.

5. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2010-8/31/2011** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $79,000**

Investigation of Anti-CEA MAb in Various Matrices.
This project employs a LC/SRM-MS-based method for the investigation of target-mediated dispositions of an anti-CEA antibody in various pharmaceutical matrices.

4. PSA-contract (Qu) **Role: PI** **6/1/2010-5/31/2011** **0 calendar**
Health Research Inc **DC to Qu Lab: $13,900**

PSA-Proteomic Analysis of Rb-Associated Proteins
The fund supports the research of a comprehensive and sensitive method to characterize the sub-proteome pulled by Rb protein in rat models.

3. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2009-8/31/2010** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $79,000**

Quantification of MAb in Tissues.
This project explores the feasibility of quantifying mAb in tissues using a strong-buffer extraction, a gel-free preparation method and a LC/SRM-MS based analytical strategy.

2 .Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2009-8/31/2010** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $79,000**

Quantitative Characterization of in Vivo Immune Complexes of MAb.
This project seeks to develop a novel method to quantitatively analyze immune complexes in circulation by a Blue Native electrophoresis, followed by in-gel-digestion and nano-LC/MS analysis.

1. Center for Protein Therapeutics (Qu) **Role: PI** **9/1/2008-8/31/2009** **0 calendar**
Peer-reviewed Industry Consortium Funds **DC to Qu Lab: $79,000**

Ultra-Sensitive Quantification of Cytokines.
This project seeks to develop a ultra-sensitive method for the quantification of cytokines in tissue matrices.

b) Qu as the Co-I (***direct cost allocated to Qu lab***)

Active:

38. AI15745901 (Panepinto) **Role: Co-I** **9/24/2021-11/29/2026** **0.1 calendar**
NIH **DC to Qu Lab *:* $125,489**

Ribosome Heterogeneity in Cryptococcus neoformans. The goal is to employ novel LC-MS strategies to elucidate the ribosome heterogeneity.

37. HL103411 (Neelamegham) **Role: Co-I** **2/01/2022-1/31/2026** **0.1 calendar**

NIH **DC to Qu Lab *:* $85,654**

System Biology for Glycosylation The goal is to develop novel LC-MS strategies to elucidate the structure of glycosylation of proteins

36. MCB2100563 (Yu) **Role: Co-I** **5/01/2021-4/30/2025** **0.1 calendar**
NSF **DC to Qu Lab *:* $47,987**

Elucidating the role of protein arginine methylation in regulating RNA-binding protein function. The goal is to develop novel LC-MS strategies to study arginine methylations in RNA-binding proteins.

35. W81XWH2010487 (Gunes) **Role: Co-I** **7/01/2020-6/30/2023** **0.24 calendar**
DOD **DC to Qu Lab *:* $104,313**

Role of ceramide kinase and ceramide-1-phosphate in endocrine resistant breast cancer. The goal is to develop a phosphoproteomics strategy to study the kinase pathway involved in breast cancer.

34. DC016869 (Torregrossa) **Role: Co-I** **12/01/2018-11/30/2023** **0.24 calendar**
NIH **DC to Qu Lab *:* $48,000**

Salivary Protein Influence on Taste and Feeding The goal is to develop an IonStar-based strategy to provide novel insights into the effect of proteins on the taste, based on global survey of salivary proteomes.

33. DE027073 (Visser) **Role: Co-I** **09/01/2018-08/31/2023** **0.24 calendar**
NIH **DC to Qu Lab *:* $48,000**

THE ROLE OF ORAL SPIROCHETE VIRULENCE FACTORS IN THE IMPAIRMENT OF NEUTROPHIL RESPONSES

The goal is to advance our understanding of spirochete pathogenicity by examining common functionality of Msp proteins across oral treponema species, provide novel insight into the contribution of OMVs and the role of Msp in OMV function and interaction with neutrophils.

32.EY028553 (Farkas) **Role: Co-I** **12/01/2017 – 11/30/2021** **0.24 calendar**
NIH **DC to Qu Lab *:* $76,245**

Using Functional Homology of RP1 Isoforms to Guide Alternative Therapeutic Strategies.

Qu's role is to research on the quantitative interactome method to discovery novel interactor of different RP1 isoforms in various biological systems.

31. HL103411(Neelamegham) **Role: Co-I** **08/04/2017 – 05/31/2021** **0.24 calendar**
NIH **DC to Qu Lab *:* $114,502**

Systems Biology of Glycosylation

Qu's role is to develop a novel nano-LC/CID/HCD/ETD on a ultra-high-field Obitrap analyzer for more efficient fragmentation of glycosylated proteins in complex biological systems, and to participate in the bioinformatics efforts to elucidate the complex sugar structure.

<u>Completed</u>

30. CA204192(Balthasar) **Role: Co-I** **3/1/2017-02/28/202** **0.5 calendar** ***Catch and***
NIH **DC to Qu Lab: $20,000**

Release Immunotoxins: CAR-Bombs for Cancer
My role is to develop a LC/MS method to characterize peptide toxin in biological systems.

29. AI125746(Read) **Role: Co-I** **06/17/2016-05/31/2018** **0.2 calenda**
NIH **DC to Qu Lab: $23,031**

Posttranslational Modification of the Regulatory RNA Binding Protein, ZFP3
My role is to develop a *de novo* method to identify the PTM of ZFP3 in a complex biological system.

28. NS096104(Wrabetz) **Role: Co-I** **04/01/2016-03/31/2018** **0.2 calenda**
NIH **DC to Qu Lab: $26,541**

Pathogenesis of Myelin Protein Zero Neuropathies in Transgenic Mice.
This study will identify some of the pathological mechanisms, and inform potential therapeutic strategies for hereditary neuropathies.

27. EY019949 (Zhang) **Role: Co-I** **09/01/2015 – 08/31/2019** **0.6 calendar** ***ER***
NIH **DC to Qu Lab: $42,650**

Stress and Diabetic Retinopathy.
The goal of our project is to identify and harness endogenous protective factors to enhance retinal cell survival and improve vascular function in diabetes mellitus.

26. NS094181 (Park) **Role: Co-I** **09/15/2015 – 06/30/2020** **0.3 calendar**
NIH **DC to Qu Lab: $93,500**

Transcription Mechanism of Myrf for Central Nervous System Myelination.
This proposal aims to unravel the transcription mechanism of Myrf.

25. RSG-14-214-01-TEB (Zhang) **Role: co-I** **01/01/2015-12/31/2018** **0.1 calenda**
American Cancer Society (ACS) **DC to Qu Lab: $44,312**

PTPN14 and YAP Tyrosine Modification Regulate the YAP Oncogenic Function
Study focuses on the investigation of mechanisms by which PTPN14 and tyrosine phosphorylation regulate the YAP oncogenic function and how these regulatory interactions further affect tumor formation and metastasis.

24. DE023105 (Yang) **Role: co-I** **6/1/2014- 5/31/2019** **0.5 calendar**
NIH **DC to Qu Lab: $64,543**

Regulation of Skeletal Development and Homeostasis by Ift Protein
The goal is to dissect the molecular mechanism of IFT80 interactions that confers cilia formation and OB differentiation and function by characterizing IFT80 structural domains, interacting proteins and their functions.

23. AG048388 (Yang) **Role: co-I** **8/1/2014- 5/30/2019** **0.5 calendar**
NIH **DC to Qu Lab: $72,513**

Function of Regulator of G Protein Signaling in Aging Skeleton

The goal of this project is to discover the role and mechanism of RGS12 in OC differentiation and activation in pathologic age condition, and provide new and more effective therapeutic targets to age-associated osteoporosis and other bone diseases.

22.AR066101(Yang) **Role: Co-I** **5/1/2014-4/30/2019** **0.6 calendar**
NIH **DC to Qu Lab*:* $71,320**

Role of Rgs12, A Regulator of G Protein Signaling, In Bone Remodeling

Qu's role is to develop proteomics strategies for characterization of RGS12-related pathways and sub-proteomes.

21. HD075363 (Feltri) **Role: co-I** **9/28/2012- 9/1/2017** **0.5 calendar**
NIH **DC to Qu Lab: $28,500**

Subcellular Domains of Myelinating-Glia: Capturing Axonal Contact

The goal is to study the proteomes of subcellular domains of neuron development.

20. CHE-1412405 (Hevel) **Role: Co-I** **8/1/14-7/31/17** **0.6 calendar**
NSF **DC to Qu Lab *:* $41,521**

Collaborative Research: Protein Arginine Methylation

The goal of this grant is to investigate the specific PRMT specificity and activity on methylating arginine residues in cells.

19. SUNY Cooperate fund (multiple) **Role: Co-I 6/1/2014 - 5/30/2015** **0 calendar**
Center for Hearing and Deafness **DC to Qu Lab: $12,500**

Brain Network: Membrane Permeable Transcriptional Regulators for Retinal Repair

The goal is to provide a seed grant to explore the relationship of Vitamin D level and children diabetes.

18. Roche Research Grant (Balthasar) **Role: Co-I 6/1/2014 - 5/30/2016** **0 calendar**
Hoffmann-La Roche Inc **DC to Qu Lab: $73,500**

Investigation of the Utility of LC/MS for Characterization of the Plasma and Tissue PK of A Novel Series of Anti-CEA Monocolonal Antibodies.

The goal is to provide a seed grant to explore the relationship of Vitamin D level and children diabetes.

17. EY025061(Zhang) **Role: co-I** **12/2/2014- 12/1/2016** **0.5 calendar** ***Study of the ER-***
NIH **DC to Qu Lab: $34,507**

Mitochondria Interface as A New Target in Diabetic Retinopathy

The overall goal of this pilot study is to establish a role of MAM in retinal cell metabolism in diabetes

16. HL103411(Neelamegham) **Role: Co-I** **7/1/2011-6/30/2016** **0.6 calendar**
NIH **DC to Qu Lab*:* $101,370**

Systems Biology of Glycosylation

Qu's role is to develop on a dual-enzyme-digestion and nano-LC/CID/HCD/ETD method for more efficient fragmentation of glycosylated proteins in complex biological systems, and to participate in the bioinformatics efforts to elucidate the complex sugar structure.

15. AI060260 (Read) **Role: Co-I** **7/1/2010-6/30/2015** **0.6 calendar**
NIH **DC to Qu Lab: $74,800**

Protein Arginine Methylation in Trypanosomes

Qu's role is to develop and employ a dual-enzyme/activation, high-resolution SCX fractionation and nano-LC/MS strategy for the global identification of methylation proteins in the proteomes of trypanosomes.

14. DA023223 (Morris) **Role: Co-I** **7/1/2012-6/30/2017** **0.6 calendar**
NIH **DC to Qu Lab: $18,110**

Gamma-hydroxybutyrate: Toxicokinetics, Toxicodynamics and Treatment Strategies

Qu's role is to develop an ultra-sensitive and accurate targeted nano-LC/MS strategy for the quantification of multiple drug transporters in animal models.

13. GM073646 (Blanco) **Role: Co-I** **7/1/2010-6/30/2014** **0.6 calendar**
NIH **DC to Qu Lab: $11,240**

Pharmacogenetics of Human Carbonyl Reductases

Qu's role is to employ a nano-LC/MS method developed by Qu lab in 2008 to quantify CBR1 and CBR3 in human tissues.

12. HL61610 (Canty) **Role: Co-I** **9/1/06 - 8/31/15** **1.2 calendar**
NIH **DC to Qu Lab: $54,750**

Metabolic Adaptation and Functional Recovery of Hibernating Myocardium

Qu's role is to discover the tissue biomarkers for hibernating myocardium and remodeling.

11. R21 HD075363 (Feltri) **Role: Co-I** **9/1/2012-8/31/2014** **0.6 calendar**
NIH **DC to Qu Lab: $26,877**

Subcellular Domains of Myelinating-Glia: Capturing Axonal Contact

Qu's role is to discover the biomarkers that are responsible for the neuron cell differentiation and the development of pseudopods, by the development and optimization of an ion-current-based method.

10. 1051350 (Yu) **Role: Co-I** **4/1/2011-3/31/2015** **0.6 calendar**
NSF **DC to Qu Lab : $16,500**

The Role of Protein Arginine Methylation in the Co-transcriptional Recruitment of pre-mRNA Splicing Factors

Qu's role is the use of CID/ETD nano-LC/MS methods to determine the methylproteins and localize the exact methylation sites on key proteins pulled-down by TAP procedures.

9. R21 DA027528(Multi) **Role: Co-PI** **9/1/2009-8/31/2011** **1.2 calendar**
NIH **DC to Qu Lab : $50,421**

Peripheral Biomarkers of Cocaine Dependence and Relapse
Qu's role is to design and execute the proteomics studies for the discovery of brain biomarkers for cocaine addiction and withdrawn.

8. R03 CA139562 (Mojica) **Role: Co-I** **4/1/2009-3/31/2011** **1.2 calendar**
NIH **DC to Qu Lab *:* $56,700**

Identification of Colon Cancer Protein Biomarkers in the Blood
Qu's role is to design and execute the proteomics studies for proteomics comparison of the normal and cancerous epithelial cells enriched from clinical samples.

7. NS045630 (Feltri) **Role: sub-award PI** **8/1/2011-7/31/2012** **0 calendar**
NIH **DC to Qu Lab *:* $12,000**

Laminin Receptors and Signals in Schwann Cells
Qu's role is to develop a method to discover the biomarkers for the neuron cell differentiation.

6. AI085569 (Schwartz) **Role: sub-award PI** **7/1/2009-6/30/2012** **0.6 calendar**
NIH **DC to Qu Lab *:* $56,526**

Integration of Clinical, Genomic And Proteomic Data Using A Bioinformatic Approach
Qu's role is to develop a proteomics strategy to compare the PBMC proteomes from NP and LTNP HIV patients.

5. EY007361 (Fliesler) **Role: sub-award PI** **3/15/2010-12/31/2010** **0 calendar**
NIH **DC to Qu Lab*:* $18,000**

Isoprenoid Metabolism in the Retina.
Qu's role is to develop a proteomics and bioinformatics method to elucidate the mechanisms of retina degeneration in a SLOS model.

4.1S10RR024521(Straubinger) **Role: Co-I** **4/1/2009 – 3/31/2010** **0 calendar**
NIH/NCRR **DC to Qu Lab *:* $0**

High Performance Computational System to Support LCMS/Proteomics Analysis
Funds the purchase of a state-of-the-art computational cluster to accelerate proteomics analysis and provide mass storage for large datasets, for the proteomics facility Qu is currently running.

3. GM073646 (Blanco) **Role: Co-I** **3/1/2005-2/28/2010** **0 calendar**
NIH **DC to Qu Lab *:* $9,000**

Pharmacogenetics of Human Carbonyl Reductases
Qu's role was to develop a highly sensitive and reliable method for the quantification of CBR enzymes in livers.

2. 1S10RR021221(Straubinger) **Role: Co-I** **04/01/2005-03/31/2006** **0 calendar**
NIH **DC to Qu Lab : $ 0**

LC/Quadrupole Ion Trap Mass Spectroscopy System
Funds a state-of-the-art ion-trap LC/Linear Trap Quadrupole instrument for peptide sequencing and drug metabolite characterization.

1. 1S10RR023650(Straubinger) **Role: Co-I** **04/01/2007- 03/31/2008** **0 calendar**
NIH **DC to Qu Lab : $ 0**

High Sensitivity Liquid Chromatography Tandem Mass Spectrometry System

Funds a state-of-the-art ultra-sensitive LC/MS instrument for drug and proteomic analysis.