

**Department of Defense Tuberous Sclerosis Complex Research Program Funded Grants FY2002-2022**

<b>State/Country</b>	<b>PI</b>	<b>Institution</b>	<b>Project</b>	<b>Award Total</b>
<b>Arizona</b>				<b>\$1,514,188.00</b>
2019	BOERWINKLE, VARINA	CHILDREN'S HOSPITAL, PHOENIX	Resting State Functional MRI Finds Correct Surgical Target to Stop Seizures in Tuberous Sclerosis Complex	\$746,999.00
2016	NARAYANAN, VINODH	TRANSLATIONAL GENOMICS RESEARCH INSTITUTE (TGEN)	Phenotypic Variability in Tuberous Sclerosis Complex (TSC)	\$767,189.00
<b>California</b>				<b>\$9,790,393.00</b>
2021	MCDONALD, NICOLE M	CALIFORNIA, UNIVERSITY OF, LOS ANGELES	Assessment and Treatment of Behavior Problems in TSC at Preschool Age: A Telehealth Approach	\$1,167,408.00
2021	DIAZ, BEGONA	LUNDQUIST INSTITUTE FOR BIOMEDICAL INNOVATION AT HARBOR-UCLA MEDICAL CENTER	Investigating Novel Targetable Vulnerabilities of LAM Disease	\$231,150.00
2020	LEE, GINA	CALIFORNIA, UNIVERSITY OF, IRVINE	Mechanistic Understanding of m6A Signaling for the Treatment of TSC and LAM	\$706,500.00
2019	KASARI, CONNIE	CALIFORNIA, UNIVERSITY OF, LOS ANGELES	TSC Remote Assessment and Intervention (TRAIN)	\$922,647.00
2018	TZANNIS, STELIOS	DELOS PHARMACEUTICALS, INC.	Development of Novel, Highly mTORC1 Selective Inhibitors for the Treatment of Tuberous Sclerosis	\$472,028.00
2016	SHI, WEI	CHILDREN'S HOSPITAL LOS ANGELES	Mechanisms of Pulmonary Lesions in TSC LAM	\$749,250.00
2015	RUBENSTEIN, JOHN L	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	Functional Impact of TSC1 Mutations on the Development and Maturation of Inhibitory Cortical Neurons	\$950,181.00
2014	JESTE, SHAFALI S	UNIVERSITY OF CALIFORNIA, LOS ANGELES	Early Behavioral Intervention to Improve Social Communication Function in Infants with TSC	\$267,508.00
2012	GUAN, KUN-LIANG	UNIVERSITY OF CALIFORNIA, SAN DIEGO	Crosstalk between mTORC1 and cAMP Signaling	\$658,750.00
2012	LIPTON, STUART A	SANFORD-BURNHAM MEDICAL RESEARCH INSTITUTE, LA JOLLA	Application of FDA-Approved Memantine and Newer NitroMemantine Derivatives to Treat Neurological Manifestations in Rodent Models of Tuberous Sclerosis Complex	\$195,000.00
2012	SHAW, RUEBEN	SALK INSTITUTE	Defining the Role of Autophagy Kinase ULK1 Signaling in Therapeutic Response of Tuberous Sclerosis Complex to mTOR Inhibitors	\$816,000.00
2008	GUAN, KUN-LIANG	UNIVERSITY OF CALIFORNIA, SAN DIEGO	Regulation of mTOR by Nutrients	\$675,002.00
2006	KRIEGSTEIN, ARNOLD	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	The Role of Tuberin and Hamartin in Cortical Neuron Migration	\$616,467.00
2006	SCHAFFER, DAVID	UNIVERSITY OF CALIFORNIA, BERKELEY	Tuberous Sclerosis Signaling in Adult Neurogenesis	\$101,840.00
2005	BARABAN, SCOTT C	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	A Morpholino Strategy to Assess TSC Gene Function in Zebrafish	\$99,999.00
2005	BOSS, GERRY R	UNIVERSITY OF CALIFORNIA, SAN DIEGO	Development of an Assay to Measure the Activation State of Rheb, the Downstream Target of TSC1/2, in Animal and Human Cells and Tissue	\$224,000.00
2005	STOKOE, DAVID	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	Identification of Translationally Regulated mRNAs and UTR Sequences by TSC1 and TSC2	\$100,000.00
2004	TAMANOI, FUYUHIKO	UNIVERSITY OF CALIFORNIA, LOS ANGELES	A Genetic Approach to Define the Importance of Rheb in Tuberous Sclerosis	\$411,672.00
2003	STOKOE, DAVID	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	The Role of GSK3 in Regulating Hamartin Phosphorylation and Activity in Response to Nutrients and Growth Factors	\$424,991.00

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<b>Colorado</b>				<b>\$237,967.00</b>
	2009 SU, TIN TIN	UNIVERSITY OF COLORADO, BOULDER	Identification of Small Molecule Suppressors of Tsc Mutant Phenotypes in Drosophila	\$141,737.00
	2005 SU, TIN TIN	UNIVERSITY OF COLORADO, BOULDER	Drosophila as a 3-D Model System to Screen for Anti-Tuberous Sclerosis Therapeutics	\$96,230.00
<b>Connecticut</b>				<b>\$2,392,571.00</b>
	2019 BORDEY, ANGELIQUE	YALE UNIVERSITY	Exosome Contribution to Social Deficits in TSC	\$752,681.00
	2015 BORDEY, ANGELIQUE	YALE UNIVERSITY	Epilepsy Causes and Treatment in TSC	\$697,777.00
	2009 BORDEY, ANGELIQUE	YALE UNIVERSITY	Understanding the Etiology of Tuberous Sclerosis Complex	\$734,763.00
	2006 SUN, ZHAOXIA	YALE UNIVERSITY	TSC1 and the Cilium in Zebrafish Kidney Development	\$110,550.00
	2004 SQUILLACE, RACHEL M	THE ROTHBERG INSTITUTE FOR CHILDHOOD DISEASES	Generation of in Vitro Cellular Models of Lymphangiomiomatosis for the Development of Tuberous Sclerosis Therapeutics	\$96,800.00
<b>District of Columbia</b>				<b>\$273,001.00</b>
	2022 TORII, MASA AKI	CHILDREN'S RESEARCH INSTITUTE AT CNMC	Treatment of Epilepsy in Tuberous Sclerosis Complex by Interneuron Progenitor Transplantation	\$273,001.00
<b>Georgia</b>				<b>\$695,969.00</b>
	2018 WEN, ZHEXING	EMORY UNIVERSITY	Modeling TSC and Translating for Therapeutics with Human Cerebral Organoids	\$695,969.00
<b>Illinois</b>				<b>\$2,584,655.17</b>
	2022 AUERBACH, BENJAMIN D	ILLINOIS, UNIVERSITY OF, CHAMPAIGN/URBANA	Using Sensory Processing to Identify Neural Circuit Deficits and Novel Treatment Strategies in a Rat Model of TSC	\$237,899.00
	2020 YOSHII, AKIRA	ILLINOIS, UNIVERSITY OF, AT CHICAGO	Developing a Novel Therapy for Neurological Symptoms of Tuberous Sclerosis Complex	\$714,620.00
	2017 LE POOLE, ISABELLE	NORTHWESTERN UNIVERSITY	Toward Chimeric Antigen Receptor Transgenic T Cell Therapy for Tuberous Sclerosis Complex	\$720,118.17
	2011 LE POOLE, ISABELLE	LOYOLA UNIVERISTY CHICAGO	Developing Immunotherapeutic Options for TSC	\$797,643.00
	2008 WEI, JIAN-JUN	NORTHWESTERN UNIVERSITY	Repression of TSC2 Expression by miR-296 in Human Normal and Tumor Tissues	\$114,375.00
<b>Indiana</b>				<b>\$964,386.00</b>
	2010 QUILLIAM, LAWRENCE A	INDIANA UNIVERSITY, INDIANAPOLIS	Targeting ER Stress to Treat TSC	\$689,386.00
	2004 CASTRO, ARIEL F	INDIANA UNIVERSITY	Functional Relevance of the Ras-Related GTPase Rheb in Tuberous Sclerosis	\$275,000.00
<b>Iowa</b>				<b>\$112,500.00</b>
	2008 HOHL, RAYMOND J	UNIVERISTY OF IOWA	Potential Contribution of the FOXO-Regulated Cell Cycle Inhibitor, Cyclin G2, to Growth Control in Tuberous Sclerosis	\$112,500.00
<b>Maryland</b>				<b>\$3,026,666.00</b>
	2021 LOTAN, TAMARA	JOHNS HOPKINS UNIVERSITY	Exploring and Leveraging Therapeutic Vulnerabilities in Renal Tumors with TSC1/2 Loss	\$818,750.00
	2019 LIN, DORIS DA MAY	JOHNS HOPKINS UNIVERSITY	Mapping of Brain GABA Levels in Tuberous Sclerosis Complex Using High-Resolution Proton MR Spectroscopic Imaging	\$897,716.00
	2018 ASRANI, KAUSHAL	JOHNS HOPKINS UNIVERSITY	mTORC1 Regulates MITF Expression and Lysosomal Biogenesis	\$163,750.00
	2011 LOTAN, TAMARA	JOHNS HOPKINS UNIVERSITY	Role of TSC1/2 and mTOR Signaling in Epidermal Cell Differentiation	\$162,000.00
	2008 DARLING, THOMAS N	UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES/HENRY M. JACKSON FOUNDATION	Targeting Angiogenesis and Lymphangiogenesis in Tuberous Sclerosis Complex	\$684,450.00
	2005 XIAO, BO	JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE	Aberrant Glutamate Signaling and Tumor-Like Growth of Astrocytes in TSC	\$100,000.00

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<b>Maryland continued</b>					
	2005	XIAO, BO	JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE	Rheb in the Pathogenesis of Seizures in TSC	\$100,000.00
	2004	XIAO, BO	JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE	Driving the Formation of Tuberous Sclerosis Complex by Creating Conditional Rheb Transgenic Mice	\$100,000.00
<b>Massachusetts</b>				<b>\$25,894,685.00</b>	
	2022	PRIOLO, CARMEN	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Targeting Mitochondrial Metabolism in Tuberous Sclerosis Complex	\$855,709.00
	2022	ALESI, NICOLA	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Role of the Secreted Factor CTHRC1 in the Pathogenesis of TSC	\$253,636.00
	2022	BREAKEYFIELD, XANDRA O	MASSACHUSETTS GENERAL HOSPITAL	Can EVs Expand the Therapeutic Effect of Gene Replacement for Tsc1 in Brain?	\$726,382.00
	2021	KWIATKOWSKI, DAVID	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Targeting TSC by mTORC1-Specific Bi-Steric Inhibitors	\$857,947.00
	2021	TANG, YAN	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Tumor-Targeting Lipid Nanoparticle-Based siRNA Therapy for TSC	\$249,670.00
	2020	SAHIN, MUSTAFA	CHILDREN'S HOSPITAL, BOSTON	The Contribution of Rapamycin-Insensitive Processes to Neurological Symptoms in TSC	\$796,500.00
	2020	WEISSMAN, JONATHAN	WHITEHEAD INSTITUTE FOR BIOMEDICAL RESEARCH	Toward Pharmacological Rescue of TSC Loss of Function	\$292,500.00
	2020	LIU, HENG-JIA	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Therapeutic Targeting of the Immune Checkpoint Molecule B7- H3 in TSC	\$260,892.00
	2019	KWIATKOWSKI, DAVID	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Targeting mTOR/JUN/AXL Axis in TSC Tumors	\$262,652.00
	2018	TANG, YAN	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Dissecting Mechanisms of Immune Suppression in Tuberous Sclerosis Complex (TSC) by Integrative Single Cell Profiling of Tumor-Microenvironment Interaction	\$179,000.00
	2018	EL-CHEMALY, SOUHEIL	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Targeting the Angiotensin Receptor in TSC	\$748,620.00
	2017	LIPTON, JONATHAN	CHILDREN'S HOSPITAL, BOSTON	Targeting Circadian Clock Proteostasis as a Novel Therapeutic Strategy in Tuberous Sclerosis Complex	\$796,500.00
	2017	MANNING, BRENDAN	HARVARD UNIVERSITY	Mapping the Routes to Tumor Cell Death in TSC	\$717,750.00
	2017	PERRIMON, NORBERT	HARVARD UNIVERSITY	An Evolutionary Approach to Vulnerability Mapping in Order to Identify Alternative and Synergistic Therapeutic Strategies for TSC and Related Diseases	\$739,125.00
	2017	ZAREI, MAHSA	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Targeting Transcriptional Addiction for the Treatment of TSC	\$222,751.00
	2016	BELAID, AMINE	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Targeting Folate-Dependent Metabolic Pathways for the Treatment of TSC	\$253,850.00
	2016	EL-CHEMALY, SOUHEIL	BRIGHAM AND WOMEN'S HOSPITAL, INC.	LAMP: The LAM Microbiome Project	\$235,000.00
	2016	FELDMAN, ADAM S	MASSACHUSETTS GENERAL HOSPITAL	Evaluation of Lipid Poor Renal Masses with Magnetic Resonance Spectroscopy in Tuberous Sclerosis Complex	\$342,000.00
	2016	HENSKE, ELIZABETH	BRIGHAM AND WOMEN'S HOSPITAL, INC.	T Cell Dysfunction in TSC: Mechanisms and Targeted Therapy	\$628,989.00
	2016	GOLDBERG, MARCIA B	MASSACHUSETTS GENERAL HOSPITAL	Toward Novel Therapeutics for TSC and LAM: Using Mechanisms of a Bacterial Protein to Sensitize Cells to Rapamycin	\$327,437.00

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<b>Massachusetts continued</b>				
2016	GIANNIKOU, KRINIO	BRIGHAM AND WOMEN'S HOSPITAL, INC.	Epigenetic Analysis of TSC Tumors to Identify Novel Therapeutic Targets	\$266,250.00
2015	BREAKEYFIELD, XANDRA O	MASSACHUSETTS GENERAL HOSPITAL	Systemic Gene Therapy for Tuberous Sclerosis	\$240,037.00
2015	HOUSDEN, BENJAMIN	HARVARD UNIVERSITY	A Unique Opportunity for TSC: Repurposing FDA-Approved Drugs Using a Unique Combinatorial Screening Strategy	\$254,048.00
2015	PRIOLO, CARMEN	BRIGHAM AND WOMEN'S HOSPITAL	Novel Metabolic Biomarkers in Tuberous Sclerosis Complex	\$250,633.00
2015	ZHANG, WEI	JUVOBIO PHARMACEUTICALS INC.	Human-Induced Pluripotent TSC1 and TSC2 Mutant Stem Cell-Derived Neuronal Assays for Mechanistic Studies and Therapeutics Development	\$164,998.00
2014	HENSKE, ELIZABETH P	BRIGHAM AND WOMEN'S HOSPITAL	Role of MicroRNA in the Pathogenesis and Treatment of TSC	\$803,679.00
2014	KWIATKOWSKI, DAVID J	BRIGHAM AND WOMEN'S HOSPITAL	COLA: A Pilot Clinical Trial of COX-2 Inhibition in LAM and TSC	\$344,582.00
2014	HENSKE, ELIZABETH P	BRIGHAM AND WOMEN'S HOSPITAL	Catalyzing Translational TSC Research: Novel LAM and AML Cell Culture Models	\$177,375.00
2014	RAMESH, VIJAYA	MASSACHUSETTS GENERAL HOSPITAL	Patient-Specific Human iPSCs for Modeling TSC Pathophysiology and Therapeutic Discovery	\$1,000,450.00
2014	SAHIN, MUSTAFA	CHILDREN'S HOSPITAL, BOSTON	Understanding the Role of TSC1/2 in Cerebellar Purkinje Neurons	\$717,951.00
2013	EL-CHEMALY, SOUHEIL Y	BRIGHAM AND WOMEN'S HOSPITAL	Critical Roles for SYK in Lymphangiogenesis in LAM	\$162,318.00
2012	BREAKEYFIELD, XANDRA O	BRIGHAM AND WOMEN'S HOSPITAL	Gene Therapy to Extend Lifespan of Tsc1 Conditional Brain Knockouts	\$158,297.00
2012	HENSKE, ELIZABETH	BRIGHAM AND WOMEN'S HOSPITAL	Dysregulation of Cellular Metabolism: Novel Therapeutic Opportunities for TSC	\$905,089.00
2012	PRIOLO, CARMEN	BRIGHAM AND WOMEN'S HOSPITAL	Novel Application for 18F-Fluorocholine PET Imaging in TSC	\$170,609.00
2012	SAHIN, MUSTAFA	BOSTON CHILDREN'S HOSPITAL	Role of CTGF in White Matter Development in Tuberous Sclerosis	\$739,505.00
2011	HENSKE, ELIZABETH	BRIGHAM AND WOMEN'S HOSPITAL	TSC1 and TSC2 Gene Homologs in Schizosaccharomyces Pombe	\$1,678,542.00
2011	YU, JANE	BRIGHAM AND WOMEN'S HOSPITAL	Targeting Estrogen-Induced COX-2 Activity in Lymphangiomyomatosis (LAM)	\$121,999.00
2011	PERRIMON, NORBERT	HARVARD UNIVERSITY	Unbiased Combinatorial Genomic Approaches to Identify Alternative Therapeutic Targets within the TSC Signaling Network	\$998,375.00
2010	BEAR, MARK	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Role of Altered mGluR Activity in Cognitive Impairments in TSC: Implications for a Novel Method Treatment	\$698,510.00
2010	NELSON, CHARLES	CHILDREN'S HOSPITAL, BOSTON	Defining Early Markers of Neurodevelopmental Disorders in Infants with TSC	\$1,490,090.00
2009	BLENIS, JOHN	HARVARD UNIVERSITY	Identification of Genes and Compounds that Control the Viability of Cells Lacking Tsc2	\$169,500.00
2009	CHAN, JOANNE	CHILDRENS HOSPITAL	Neuronal VEGF Signaling Enhances Tsc1/2 Deficiency to Promote TSC Progression	\$171,583.00
2009	GAN, BOYI	DANA-FARBER CANCER INSTITUTE	TSC-FoxO Signaling Network in Kidney Cancer Development	\$494,392.00
2009	LADIAS, JOHN	BETH ISRAEL DEACONESS MEDICAL CENTER, BOSTON	Structural Basis for TSC1-TSC2 Complex Function	\$782,688.00
2009	MANNING, BRENDAN	HARVARD UNIVERSITY	Defining the Therapeutic Implications of the Integrative Stress Response in TSC	\$726,750.00

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<b>Massachusetts continued</b>				
2009	PAUL, ELAHNA	MASSACHUSETTS GENERAL HOSPITAL	Biomarkers of Renal Tumor Burden and Progression in TSC	\$176,998.00
2008	YOSHII, AKIRA	MIT	Studying Protein Synthesis-Dependent Synaptic Changes in Tuberous Sclerosis	\$567,840.00
2006	LADIAS, JOHN	BETH ISRAEL DEACONESS MEDICAL CENTER, BOSTON	Structural Basis for TSC1-TSC2 Complex Formation	\$113,900.00
2006	LONG, XIAOMENG	MASSACHUSETTS GENERAL HOSPITAL	Screening for Chemical Compounds that Specifically Interfere with TSC-Rheb-TOR Signaling	\$117,206.00
2006	SABATINI, DAVID M	WHITEHEAD INSTITUTE FOR BIOMEDICAL RESEARCH	Structural and Mechanistic Analyses of TSC1/2- and Rheb1/2-Mediated Regulation of the mTOR Pathway	\$779,922.00
2004	SABATINI, DAVID M	WHITEHEAD INSTITUTE FOR BIOMEDICAL RESEARCH	Identifying Novel Drug Targets for the Treatment of Tuberous Sclerosis Complex Using High Throughput Technologies	\$100,000.00
2004	SAHIN, MUSTAFA	CHILDREN'S HOSPITAL, BOSTON	Development of Peptide Inhibitors of Rheb Signaling Pathway	\$100,000.00
2003	KAELIN, WILLIAM G	DANA-FARBER CANCER INSTITUTE	Hypoxia-Inducible Factor Regulation by the TSC2 Tumor Suppressor Protein	\$356,600.00
2003	SABATINI, BERNARDO	HARVARD UNIVERSITY	The Role of TSC1 in the Formation and Maintenance of Excitatory Synapses	\$425,000.00
2002	ITO, NAOTO	MASSACHUSETTS GENERAL HOSPITAL	Functions of TSC Genes in the Nervous System in Drosophila Melanogaster	\$420,569.00
<b>Michigan</b>				<b>\$1,589,403.70</b>
2021	DOMBKOWSKI, ALAN A	WAYNE STATE UNIVERSITY	Exosome Biomarkers of Epilepsy in Tuberous Sclerosis Complex Patients	\$223,998.00
2014	INOKI, KEN	MICHIGAN, UNIVERSITY OF	Mechanism of Ribosomes Biogenesis in TSC	\$845,679.00
2013	DOMBKOWSKI, ALAN	WAYNE STATE UNIVERSITY	The Role of 5-Hydroxymethylcytosine in Gene Dysregulation of Epileptogenic Tubers in Tuberous Sclerosis Complex Patients	\$149,942.00
2006	GUAN, KUN-LIANG	UNIVERSITY OF MICHIGAN	Regulation of the mTOR Pathway by a Novel Rheb Binding Protein BNIP3	\$99,784.70
2005	GUAN, KUN-LIANG	UNIVERSITY OF MICHIGAN	BIG1 as a Potential Guanine Nucleotide Exchange Factor for Rheb	\$100,000.00
2005	GUAN, KUN-LIANG	UNIVERSITY OF MICHIGAN	Function of p53 in Regulation of TSC Mutant Cell Apoptosis	\$70,000.00
2004	GUAN, KUN-LIANG	UNIVERSITY OF MICHIGAN	Regulation of TSC1/TSC2 Stability and Rheb GTP Level by Herc1	\$100,000.00
<b>Minnesota</b>				<b>\$2,822,567.00</b>
2018	KIM, DO-HYUNG	UNIVERSITY OF MINNESOTA	Role of the Immunoproteasome in TSC Pathogenesis and Therapeutics	\$693,000.00
2015	YONG, JEONGSIK	UNIVERSITY OF MINNESOTA	Characterization of mTOR-Responsive Truncated mRNAs in Cell Proliferation	\$226,800.00
2012	KIM, DO-HYUNG	UNIVERSITY OF MINNESOTA	Targeting Amino Acid-mTORC1 Signaling Limb for TSC Suppression	\$645,998.00
2005	KIM, DO-HYUNG	UNIVERSITY OF MINNESOTA	Defining the Regulatory Mechanisms of Rheb-mTOR Signaling Activated in Tuberous Sclerosis Complex	\$100,000.00
2006	KIM, DO-HYUNG	UNIVERSITY OF MINNESOTA	Functional Proteomics of TSC-mTOR Signaling	\$596,567.00
2006	SELLECK, SCOTT	UNIVERSITY OF MINNESOTA	Understanding the Function of Tuberous Sclerosis Complex Genes in Neural Development: Roles in Synapse Assembly and Axon Guidance	\$560,202.00

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<b>Missouri</b>				<b>\$2,054,762.00</b>	
	2021	WONG, MICHAEL	WASHINGTON UNIVERSITY	Mechanisms of Sleep-Seizure Interactions in Tuberous Sclerosis Complex	\$781,381.00
	2020	WONG, MICHAEL	WASHINGTON UNIVERSITY	The Role of Blood-Brain Barrier Dysfunction in Epilepsy in TSC	\$236,250.00
	2014	WEBER, JASON	WASHINGTON UNIVERSITY	Identification of NPM and DDX5 as Therapeutic Targets in TSC	\$152,500.00
	2011	WONG, MICHAEL	WASHINGTON UNIVERSITY	The Role of Brain Inflammation in Epileptogenesis in TSC	\$152,000.00
	2004	SHIPLEY, JAMES M	WASHINGTON UNIVERSITY	Modeling Phenotypes of Tuberous Sclerosis in the Mouse	\$307,949.00
	2002	GUTMANN, DAVID	WASHINGTON UNIVERSITY	Mouse Models of TSC-Related Epilepsy	\$424,682.00
<b>New Jersey</b>				<b>\$2,587,482.00</b>	
	2022	VALVEZAN, ALEXANDER	RUTGERS, NEW JERSEY, STATE UNIVERSITY OF	Defining the Cell Cycle Phase-Specific Regulation and Function of mTORC1 to Identify New Therapeutic Targets in TSC Tumors	\$783,077.00
	2019	VALVEZAN, ALEXANDER	RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY	Defining Cellular Stresses Sensed Through the TSC Complex to Identify Vulnerabilities in TSC Tumors	\$234,750.00
	2015	D'ARCANGELO, GABRIELLA	RUTGERS UNIVERSITY, NEW BRUNSWICK	Cell Type-Specific Contributions to the TSC Neuropathology	\$816,171.00
	2011	D'ARCANGELO, GABRIELLA	RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY	Exploring the Interaction between TSC2, PTEN, and the NMDA Receptor in Animal Models of Tuberous Sclerosis	\$155,000.00
	2009	WOOD, TERESA	NEW JERSEY, UNIVERSITY OF MEDICINE AND DENTISTRY OF, ROBERT WOOD JOHNSON MEDICAL SCHOOL	TSC Regulates Oligodendroglial Differentiation and Myelination in the CNS	\$154,012.00
	2004	CHADA, KIRAN K	NEW JERSEY, UNIVERSITY OF MEDICINE AND DENTISTRY OF, ROBERT WOOD JOHNSON MEDICAL SCHOOL	HMGA2 in Tuberous Sclerosis	\$444,472.00
<b>New York</b>				<b>\$8,011,238.00</b>	
	2022	HAMMES, STEPHEN R	ROCHESTER, UNIVERSITY OF	Estrogen Promotes Lymphangiogenesis Indirectly Through Stimulation of Innate Immunity	\$770,000.00
	2021	TANG, GUOMEI	COLUMBIA UNIVERSITY MEDICAL CENTER	Autophagy Induction as a Novel Therapeutic Strategy for TSC-Associated Cognitive and Autistic Social Deficits	\$810,000.00
	2020	D'ARMIENTO, JEANINE M	COLUMBIA UNIVERSITY MEDICAL CENTER	LAM Pilot Study with Nilotinib LAMP-2	\$859,380.00
	2020	HOLZ, MARINA K	NEW YORK MEDICAL COLLEGE	KCC2 Dysfunction Enhances Synaptic Excitability of Cytomegalic Neurons in TSC	\$243,000.00
	2017	D'ARMIENTO, JEANINE MARIE	COLUMBIA UNIVERSITY MEDICAL CENTER	Neural Crest Origin of TSC Tumors	\$719,994.00
	2016	BLENIS, JOHN	JOAN & SANFORD I WEILL MEDICAL COLLEGE OF CORNELL UNIVERSITY	Metabolic Regulation of mTORC1 Catalytic Activity	\$762,750.00
	2015	TANG, GUOMEI	COLUMBIA UNIVERSITY MEDICAL CENTER	Impaired mTOR Macroautophagy and Neurocognitive Deficits in Tuberous Sclerosis Complex	\$720,000.00
	2014	GOLDMAN, JAMES E	COLUMBIA UNIVERSITY MEDICAL CENTER	Molecular Mechanisms Underlying the Epileptogenesis and Seizure Progression in Tuberous Sclerosis	\$679,999.00
	2013	QIAN, SHU-BING	CORNELL UNIVERSITY, ITHACA	Defining Translational Reprogramming in Tuberous Sclerosis Complex	\$658,750.00
	2011	SULZER, DAVID	COLUMBIA UNIVERSITY	Altered Astrocyte-Neuron Interactions and Epileptogenesis in Tuberous Sclerosis Complex Disorder	\$704,306.00
	2011	HAMMES, STEPHEN	UNIVERSITY OF ROCHESTER	Uterine-Specific Knockout of TSC-2: A Mouse Model for Lymphangiogenesis (LAM)	\$152,000.00

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<b>New York continued</b>				
2010	QIAN, SHU-BING	CORNELL UNIVERSITY, ITHACA	Genome-Wide Analysis of Translational Control in Tuberous Sclerosis Complex	\$146,810.00
2008	TSANG, STEPHEN	COLUMBIA UNIVERSITY	Preventing Visual Handicap in Children with Tuberous Sclerosis Complex	\$482,300.00
2006	LEATHERWOOD, JANET	STATE UNIVERSITY OF NEW YORK AT STONY BROOK	A Search for New Therapeutic Targets: Using Yeast to Find the GEF for Rheb	\$101,949.00
2005	JAFFREY, SAMIE R	WEILL MEDICAL COLLEGE OF CORNELL UNIVERSITY	Role of TSC1/2 in Axonal Development and Neuronal Morphogenesis	\$100,000.00
2004	ZHONG, YI	COLD SPRING HARBOR LABORATORY	Analysis of Learning Disabilities of Tuberous Sclerosis Complex in Drosophila	\$100,000.00
<b>North Carolina</b>				<b>\$2,475,454.00</b>
2022	CAPAL, JAMIE K	NORTH CAROLINA AT CHAPEL HILL, UNIVERSITY OF	Regulating Together in Tuberous Sclerosis Complex: A Pilot Feasibility Study in Children and Adolescents with TSC-Associated Neuropsychiatric Disorder (TAND)	\$1,188,902.00
2018	RAAB-GRAHAM, KIMBERLY F	WAKE FOREST UNIVERSITY HEALTH SCIENCES	Investigative Studies into mTORC1-Dependent Dendritic Branch Potentiation in TSC	\$652,954.00
2013	ANTON, EVA	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	Disrupted Cilia Signaling in Tuberous Sclerosis Complex	\$633,598.00
<b>Ohio</b>				<b>\$4,494,790.00</b>
2022	RITTER, DAVID	CHILDREN'S HOSPITAL, CINCINNATI	Cardiac Rhabdomyomas as Biomarkers of TSC Disease Severity	\$213,281.00
2021	DIFRANCESCO, MARK	CHILDREN'S HOSPITAL, CINCINNATI	Establishing Network Connectivity and Microvascular Imaging Biomarkers for Tuberous Sclerosis Complex	\$755,762.00
2021	LETTERIO, JOHN	CASE WESTERN RESERVE UNIVERSITY	Development of Novel Synthetic Triterpenoids for the Chemoprevention of Neurological Manifestations of Tuberous Sclerosis Complex	\$241,500.00
2020	HESTER, MARK	RESEARCH INSTITUTE AT NATIONWIDE CHILDREN'S HOSPITAL	Dissecting Mechanisms Underlying Brain Calcification in TSC	\$231,000.00
2019	YU, JANE J	UNIVERSITY OF CINCINNATI	Dysregulation of Sphingolipid Metabolism and Actions in Tuberous Sclerosis Complex	\$722,250.00
2018	YU, JANE J	UNIVERSITY OF CINCINNATI	Development of Remission-Inducing Therapy for TSC Tumors	\$160,500.00
2010	LI, YU	CHILDREN'S HOSPITAL, CINCINNATI	Noninvasive, MR-Guided HIFU Therapy of TSC-Associated Renal Angiomyolipomas	\$152,624.00
2009	MCCORMACK, FRANCIS	UNIVERSITY OF CINCINNATI	LAMS Clinics Research Network	\$1,103,808.00
2005	BISSLER, JOHN	CHILDREN'S HOSPITAL, CINCINNATI	Tuberous Sclerosis Complex Natural History Study: Renal Manifestations	\$814,065.00
2004	XU, LI-HUI	ONCOIMMUNE, LTD.	Study of 2-Deoxyglucose as a Potential Treatment for TSC	\$100,000.00
<b>Pennsylvania</b>				<b>\$2,214,061.00</b>
2021	OBRAZTSOVA, KSENIYA	PENNSYLVANIA, UNIVERSITY OF	Defining Molecular Mechanism for Targeting the Female-Specific TSC-LAM	\$243,750.00
2015	STEPANOVA, VICTORIA	UNIVERSITY OF PENNSYLVANIA	Role of Urokinase-Type Plasminogen Activator (uPA) in Progression of TSC Tumors	\$240,000.00
2008	ASTRINIDIS, ARISTOTELIS	DREXEL UNIVERSITY SCHOOL OF MEDICINE	Role of the Hamartin-Plk1 Interaction in Tuberous Sclerosis Complex Pathogenesis	\$675,000.00
2005	CRINO, PETER B	UNIVERSITY OF PENNSYLVANIA	Mutational Analysis of Cell Types in Tuberous Sclerosis Complex (TSC)	\$406,560.00
2005	LIU, YONG-JIAN	UNIVERSITY OF PITTSBURGH	Molecular Mechanisms of Neurological Disorders in TSC	\$100,000.00
2003	KRYMSKAYA, VERA P	UNIVERSITY OF PENNSYLVANIA	The Role of TSC Proteins in Regulating Cell Adhesion and Motility	\$150,000.00
2002	HENSKE, ELIZABETH	FOX CHASE CANCER CENTER	TSC1 and TSC2 Gene Homologs in Schizosaccharomyces Pombe	\$398,751.00

**Department of Defense Tuberous Sclerosis Complex Research Program Funded Grants FY2002-2022**

State/Country	PI	Institution	Project	Award Total
<b>Rhode Island</b>				<b>\$869,815.00</b>
2011	ZERVAS, MARK	BROWN UNIVERSITY	Temporal Loss of Tsc1: Neural Development and Brain Disease in Tuberous Sclerosis	\$716,530.00
2010	ZERVAS, MARK	BROWN UNIVERSITY	Determining Neuronal Circuits in Tuberous Sclerosis	\$153,285.00
<b>South Carolina</b>				<b>\$924,765.00</b>
2019	FELICIANO, DAVID M	CLEMSON UNIVERSITY	A Subependymal Giant Cell Astrocytoma (SEGA) Mouse Model	\$667,968.00
2013	STRANGE, CHARLIE	MEDICAL UNIVERSITY OF SOUTH CAROLINA	LAM Pilot Study with Imatinib Mesylate (LAMP-1)	\$256,797.00
<b>Tennessee</b>				<b>\$4,055,037.00</b>
2022	CHAUM, EDWARD	VANDERBILT UNIVERSITY MEDICAL CENTER	Optimizing Therapeutic Control of Epilepsy in Tuberous Sclerosis Complex Using a Novel Biosensor	\$1,567,533.00
2017	ZAREI, MAHSA	VANDERBILT UNIVERSITY	Targeting Transcriptional Addiction for the Treatment of TSC	\$222,751.00
2015	IHRIE, REBECCA A	VANDERBILT UNIVERSITY	Identifying Novel Candidate Therapies for SEGAs Using Quantitative Single-Cell Assays	\$930,096.00
2013	BISSLER, JOHN	UNIVERSITY OF TENNESSEE, HEALTH SCIENCE CENTER	Prevention of TSC Renal Disease	\$637,501.00
2009	ESS, KEVIN	VANDERBILT UNIVERSITY	Neural Development in tsc2-Deficient Zebrafish	\$697,156.00
<b>Texas</b>				<b>\$6,447,682.58</b>
2021	BRAGER, DARRIN	TEXAS, UNIVERSITY OF, AT AUSTIN	Voltage-Gated Ion Channel Dysfunction in Tuberous Sclerosis	\$231,237.00
2020	ANDERSON, ANNE	BAYLOR COLLEGE OF MEDICINE	Mechanisms of Epileptogenesis and Circuit Dysfunction in a Mouse Model of TSC	\$722,250.00
2018	PENG, GUANG	M.D. ANDERSON CANCER CENTER, UNIVERSITY OF TEXAS	Maintenance of Genome Stability in TSC2-Deficient Tumors	\$160,000.00
2018	JIANG, XIAOLONG	BAYLOR COLLEGE OF MEDICINE	Deciphering Circuit-Level Mechanisms Underlying Intrinsic Epileptogenicity of Cortical Tubers in TSC	\$160,072.00
2017	FARACH, LAURA	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON	Developing a Genetic Risk Prediction Model for Epilepsy in Patients with TSC	\$627,069.00
2016	TSAI, PETER	TEXAS, UNIVERSITY OF, SOUTHWESTERN MEDICAL CENTER AT DALLAS	Neural Circuits Underlying Autism-Relevant Behaviors in TSC	\$708,784.00
2014	KARBOWNICZEK, MAGDALENA	TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER, LUBBOCK	Identifying Mechanisms Initiating LAM and Angiomyolipoma in Tuberous Sclerosis Complex	\$641,746.00
2013	RAAB-GRAHAM, KIMBERLY	UNIVERSITY OF TEXAS AT AUSTIN	Molecular Studies Investigating the Link Between Dendritic mRNA Translation and Repression Leading to Epilepsy in TSC	\$800,064.00
2010	GAMBELLO, MICHAEL	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON	Behavioral Analysis and Rescue of a Novel Cerebellar Mouse Model of Tuberous Sclerosis Complex	\$149,643.00
2010	KOENIG, MARY K	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON	Topical Rapamycin Therapy to Alleviate Cutaneous Manifestations of Tuberous Sclerosis Complex	\$1,798,869.00
2009	WALKER, CHERYL	M.D. ANDERSON CANCER CENTER, UNIVERSITY OF TEXAS	TSC2 and Cystogenesis	\$111,382.00
2006	GAMBELLO, MICHAEL	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON	Targeted Disruption of Tsc2 Gene in the Mouse Cerebellum	\$95,259.58
2005	WALKER, CHERYL	M.D. ANDERSON CANCER CENTER, UNIVERSITY OF TEXAS	TSC2 Haploinsufficiency Leads to a Mutator Phenotype	\$100,000.00
2004	SPARAGANA, STEVEN P	TEXAS SCOTTISH RITE HOSPITAL FOR CHILDREN	Tuberous Sclerosis Complex National Database	\$141,307.00
<b>Vermont</b>				<b>\$155,661.17</b>
2018	MAHONEY, JOHN M	UNIVERSITY OF VERMONT & STATE AGRICULTURAL COLLEGE	Systems Genetics of Tuberous Sclerosis Complex Outcomes Using BXD Recombinant Inbred Mice	\$155,661.17

**Department of Defense Tuberous Sclerosis Complex Research Program Funded Grants FY2002-2022**

<b>State/Country</b>	<b>PI</b>	<b>Institution</b>	<b>Project</b>	<b>Award Total</b>
<b>Virginia</b>				<b>\$238,794.00</b>
2022	WENKER, IAN	VIRGINIA, UNIVERSITY OF	Mechanisms of Seizure-Induced Death of TSC Model Mice	\$238,794.00
<b>Washington</b>				<b>\$232,295.00</b>
2012	XU, WENQUING	UNIVERSITY OF WASHINGTON	3D Structure of TSC1	\$154,295.00
2008	XU, WENQUING	UNIVERSITY OF WASHINGTON	Structural Studies of the HERC1-Tuberin Interaction	\$78,000.00
<b>West Virginia</b>				<b>\$84,420.00</b>
2006	GUO, HUI-FU	WEST VIRGINIA UNIVERSITY	Analyzing the Functions of Tuberous Sclerosis Complex in Synapse Development and Synaptic Plasticity in Drosophila	\$84,420.00
<b>Wisconsin</b>				<b>\$144,211.00</b>
2013	HORNBERGER, TROY A	UNIVERSITY OF WISCONSIN, MADISON	The Role of TSC2 Phosphorylation in the Regulation of TSC2 Localization and mTOR Signaling	\$144,211.00
<b>Australia</b>				<b>\$754,255.00</b>
2018	ELLISDON, ANDREW M	MONASH UNIVERSITY	Structural Basis of Tuberous Sclerosis Complex Assembly and Dysregulation in Disease	\$754,255.00
<b>Canada</b>				<b>\$1,317,216.00</b>
2013	KARAGIANNIS, JIM	UNIVERSITY OF WESTERN ONTARIO	Using Genetic Buffering Relationships Identified in Fission Yeast to Elucidate the Molecular Pathology of Tuberous Sclerosis	\$84,318.00
2013	STANFORD, WILLIAM	UNIVERSITY OF OTTAWA	Modeling TSC and LAM Using Patient-Derived Induced Pluripotent Stem Cells	\$658,419.00
2010	ROBERGE, MICHEL	UNIVERSITY OF BRITISH COLUMBIA	Study of mTOR Signaling Inhibitors as Potential Treatment for TSC	\$107,050.00
2008	STAMBOLIC, VUK	UNIVERSITY HEALTH NETWORK, TORONTO	Development of a Novel NMR-Based Rheb GTPase Assay and Molecular Characterization of TSC2 GAP Activity	\$110,400.00
2005	MCNEILL, HELEN	MOUNT SINAI HOSPITAL, SAMUEL LUNENFELD RESEARCH INSTITUTE	Genetic and Molecular Analysis of the Mechanisms by which TSC Regulates Neuronal Differentiation	\$357,029.00
<b>England</b>				<b>\$584,708.00</b>
2018	DUNLOP, ELAINE	CARDIFF UNIVERSITY	An Innovative Model System of Cell Invasion in TSC/LAM to Uncover New Drug Targets and Therapies	\$99,995.00
2016	BATEMAN, JOSEPH	KING'S COLLEGE, LONDON	Establishing the Molecular Basis of the Neurodevelopmental Features of TSC	\$484,713.00
<b>Germany</b>				<b>\$146,049.35</b>
2019	KUEMMEL, DANIEL	WESTFAELISCHE WILHELMS-UNIVERSITAET MUENSTER	Structural Analysis of the TSC Complex by Single Particle Reconstruction	\$146,049.35
<b>Japan</b>				<b>\$420,000.00</b>
2004	MATSUMOTO, TOMOHIRO	KYOTO UNIVERSITY	Fission Yeast Model Study for Dissection of TSC Pathway	\$420,000.00
<b>Switzerland</b>				<b>\$714,141.00</b>
2021	HALL, MICHAEL N	UNIVERSITAT BASEL	Selective mTORC1 Inhibitors to Treat TSC	\$549,471.00
2019	HALL, MICHAEL N	UNIVERSITAT BASEL	Novel mTORC1 Inhibitors to Treat TSC	\$164,670.00
<b>The Netherlands</b>				<b>\$350,548.00</b>
2006	NELLIST, MARK	Erasmus MC-Daniel den Hoed Cancer Center	Biochemical Characterization of TSC1 and TSC2 Variants Identified in Patients with Tuberous Sclerosis Complex	\$350,548.00