

CURRICULUM VITAE

Terry J. Fry, M.D.

PROFESSIONAL ADDRESS

Children's Hospital Colorado
University of Colorado Denver
12800 E. 19th Avenue, MS 8302, RC1N
Aurora, Colorado 80045
Tel: 303-724-7293
Fax: 303-724-4015
E-mail: terry.fry@ucdenver.edu

EDUCATION

Degree	Institution	Date Degree Granted
B.A. (Biology)	Colgate University, Hamilton, NY	1988
M.D.	Georgetown University School of Medicine Washington, DC	1992
Pediatric Residency	Georgetown University Hospital, Washington, D	1992-1995
Chief Pediatric Resident	Georgetown University Hospital	1995-1996
Pediatric Hematology Oncology Fellowship	Johns Hopkins University Hospital, Baltimore, MD	1996-1999
Post-Doctoral Fellow	Pediatric Oncology Branch, NCI, NIH, Bethesda, MD	1999-2003

ACADEMIC APPOINTMENT

Staff Clinician, Pediatric Oncology Branch, NCI, NIH Chief, Division of Blood and Marrow Transplantation, Children's National Medical Center, Washington, DC 2007-2010	2003-2007
Investigator, and Head, Hematologic Malignancies Section, Pediatric Oncology Branch, Center for Cancer Research, NCI, NIH Visiting Professor of Pediatrics, Hematology and Immunology Co-Director, Human Immunology and Immunotherapy Initiative and Director of Cancer Immunotherapy University of Colorado School of Medicine; Robert and Kathleen Clark Endowed Chair in Pediatric Cancer Therapeutics, Children's Hospital Colorado, Center for Cancer and Blood Disorders	2010-2018 2018-Present

HOSPITAL, GOVERNMENT OR OTHER PROFESSIONAL POSITIONS

HONORS, SPECIAL RECOGNITIONS AND AWARDS

Chief Pediatric Resident, Georgetown University Hospital 1995	
NIH Post-Bac IRTA Teaching Award	2005
NIH Post-Bac IRTA Teaching Award	2007
Elected Chair, Oncology Strategy Group, Pediatric Blood and Marrow Transplant Consortium	2011
Appointed NIH Site Director, NIH/Johns Hopkins Pediatric Hematology and Oncology Joint Fellowship Program	2014 2016
Elected into the American Society of Clinical Investigation	2017
Selected as Principal Investigator in the Pediatric Cancer Immunotherapy Trials Network (pedCITN)	2017
Selected as Vice Chair, Biology, Cell Therapy Committee, Children's Oncology Group	2017
Invited to Chair Pediatric Special Interest Group Program at the Tandem BMT Meetings	2018

Cooperative Research and Development Awards

Co-Investigator, NIH CRADA, Development of CD22 Chimeric Antigen Receptor Based Therapy for Refractory B Cell Malignancies, Neommune, Inc.	2011-2014
Principal Investigator, NIH CRADA, Development of CD22 Chimeric Antigen Receptor Based Therapy for Refractory B Cell Malignancies, Juno, Inc.	2014-2017
Principal Investigator, NIH CRADA, Development of Next Generation Chimeric Antigen Receptor (CAR)-Based Therapy Using NCI's Proprietary CARs and Encarta Therapeutics, Inc.'s Proprietary Antigen Binding Domains, Encarta	2015-2017
Principal Investigator, NIH CRADA, A Phase I Dose Escalation Study of Anti-CD22 Chimeric Receptor T-Cells in Pediatric and Young Adults With Recurrent or Refractory CD22 Expressing B-Cell Malignancies, Juno, Inc.	2017-2018
Principal Investigator, NIH CRADA, Adoptive Immunotherapy for Thymic Stromal Lymphopoietin Receptor (TSLPR)-Positive Hematologic Malignancy with Chimeric Antigen Receptor (CAR)-Modified Lymphocytes that Includes a Safety Tag	2017-2018

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Society of Hematology
American Association of Immunology
Children's Oncology Group
American Society of Blood and Marrow Transplantation
Pediatric Blood and Marrow Transplant Consortium
American Society for Clinical Investigation
American Association for Cancer Research

MAJOR COMMITTEE AND SERVICE RESPONSIBILITIES

American Society of Hematology, Session Chair, Stem Cell Biology
2004

American Society of Hematology Meeting, Immune Reconstitution Session
Orlando, FL 2006

Search Committee, Chief of Rheumatology, Children's National Medical Center 2008

American Society of Hematology, Abstract Reviewer and Session Chair,
Lymphocyte Biology 2009

American Association of Immunology Meeting, Session Chair, Transplantation
Immunology 2010

American Society of Hematology, Coordinating Abstract Reviewer and
Session Chair, Lymphocyte Biology 2010

Search Committee, Chief of Allergy and Immunology,
2010
Children's National Medical Center
Chair, Oncology Strategy Group, Pediatric Blood and Marrow Transplant
Consortium 2011-2017 2011-2017

Pediatric Advisor, Radiological and Nuclear Terrorism Risk Assessment, 2011

American Association of Immunology, Abstract Reviewer and Session Chair,
Transplantation Biology 2012

Biomedical Advanced Research and Development Authority, HHS
Cell Therapy Committee, Children's Oncology Group 2012-Present

Chair, ALL Committee, SU2C/St. Baldrick's Pediatric Dream Team
2013-Present
Immunotherapy Grant

American Society of Hematology, Abstract Reviewer and Session Chair,
Lymphocyte Biology 2013

American Society of Hematology, Coordinating Abstract Reviewer and
Session Chair, Lymphocyte Biology 2014

ad hoc member, Children's National Medical Center Scientific
Protocol Review Committee 2014-2018

Co-Chair, Children as Stem Cell Donors in Research Conference Joint
Sponsored by NCI and Pediatric BMT Consortium 2015

The NIH Children's Inn, Clinical Advisors Committee 2016-2018

Best Abstracts Session Chair, Pediatric Special Interest Group Tandem Transplant Meeting	2017
National Comprehensive Cancer Center Network Task Force on CAR T cells	2018

LICENSURE AND BOARD CERTIFICATION

Colorado	2018-Present
Maryland	1996- Present
Washington, DC	1995-2016
American Board of Pediatrics, General Pediatrics	1995-2002
American Board of Pediatrics, Pediatric Hematology and Oncology	2000-2007
Recertification, General Pediatrics	2002-2012
Recertification, Pediatric Hematology and Oncology	2007-2017
Recertification, Pediatric Hematology and Oncology	2018-2028

INVENTIONS, INTELLECTUAL PROPERTY AND PATENTS HELD OR PENDING

2013	Thymic Stromal Lymphopoietin Receptor-Specific Chimeric Antigen Receptors and Methods Using Same. Patent Pending. U.S. Patent Application No. 61/991,697, filed May 12, 2014.
2015	Chimeric Antigen Receptor Targeting Both CD19 and CD22. Patent Pending. U.S. Patent Application No. 62/135,442, filed March 19, 2015.
2016	FLT3-Specific Chimeric Antigen Receptors and Methods Using Same. Patent Pending. U.S. Patent Application No. 62/342,394, filed May 27, 2016.
2017	CD19 and CD22 chimeric Antigen Receptors Separated by a Cleavable Linker. Patent Pending. U.S. Patent Application No. 62/506,268, filed May 15, 2017.
2018	Anti-CD33 Chimeric Antigen Receptors and Their Uses. U.S. Patent Application No. 62/643,015 filed March 14, 2018.
2018	Affinity Matured CD22-Specific Monoclonal Antibodies and Uses Thereof. Patent Pending. U.S. Patent Application No. 62/697,185, filed October 15, 2018.

REVIEW AND REFEREE WORK

2000-2001	Immunology Interest Group Steering Committee
2002-2005	Ontario HIV Treatment Network
2002-2007	Member, Pediatric Care Committee
2004	Yorkshire Cancer Research Program
2005-2007	Member and Acting Chair, NCI Internal Review Board
2005-2017	The Wellcome Trust
2006-2010	Editorial Board, Clinical Immunology
2006-Present	NIH Blood and Marrow Transplant Consortium
2007	ad hoc Reviewer, Recombinant Advisory Committee
2008	Search Committee, Chief of Rheumatology, Children's National Medical Center
2009	Editor, Pediatric Clinics of North America, Bone Marrow Transplantation
2009	Landsteiner Foundation for Blood Transfusion Research
2009-2016	Alex's Lemonade Stand Young Investigator Awards
2009	NICHD ZHD1 DSR-Z WC, P01 Program Project Grant, Gene Therapy for Metabolic Disorders
2010	Search Committee, Chief of Allergy and Immunology, Children's National Medical Center
2010	Revision Committee, NIH BMT Consortium Infectious Disease Guidelines
2011	NHLBI ZRG1 VH-F Transfusion Medicine RO1 Grants
2011	NICHD ZHD1 DSR-Z WC, P01 Program Project Grant, Gene Therapy for Metabolic Disorders
2011	RFA-CA-10-007, Cancer Immunology Trials Network UO1 Grants
2011	Alex's Lemonade Stand Reach Awards
2011	Pediatric Advisor, Radiological and Nuclear Terrorism Risk Assessment, Biomedical Advanced Research and Development Authority, HHS
2011	Search Committee, Experimental Transplantation and Immunology Branch Tenure Track Position
2011	Advisor, Radiation and Nuclear Counter Measures Program, NIAID
2011-2017	Chair, Oncology Strategy Group, Pediatric Blood and Marrow Transplant Consortium
2011-Present	Editorial Board, Frontiers in Pediatric Oncology
2012	Landsteiner Foundation for Blood Transfusion Research
2012	Michael Smith Foundation for Health Research
2012-2017	NIH Radiation Safety Committee
2012-Present	Cell Therapy Committee, Children's Oncology Group
2013	CCR Flow Cytometry Core Reviewer
2013-Present	Chair, ALL Committee, SU2C/St. Baldrick's Pediatric Dream Team Immunotherapy Grant
2014	Alex's Lemonade Stand Reach Awards
2014-2017	Site Director, NIH/Johns Hopkins Pediatric Hematology and Oncology Joint Fellowship Program
2014-2017	St. Baldrick's Foundation Research Grants

2014-2018	ad hoc member, Children's National Medical Center Scientific Protocol Review Committee
2014-Present	Editorial Board, Frontiers in Pediatrics, Pediatric Hematology and Immunology
2015	NIAID, RFA-AI-14-012 and RFA-AI-14-013, HLA and KIR Region Genomics in Immune-Mediated Diseases, U01/U19 Grants
2015	Revision Committee, NIH BMT Consortium Infectious Disease Guidelines
2016	The Wellcome Trust Cancer-UK Collaborative Award
2016	Leukemia Lymphoma Society Pediatric Strategy Expert Committee
2016-2018	The Children's Inn, Clinical Advisors Committee
2017	Pediatric Cancer Immunotherapy, Cancer Moonshot Blue Ribbon Panel Implementation Team
2018	RFA-CA-17-050 (Pediatric Immunotherapy Discovery and Development Network (PI-DDN))(U54)

Science, Science Translational Medicine, Nature Medicine, Journal of Clinical Investigation, Cancer Discovery, Nature Reviews Immunology, Blood, Journal of Clinical Immunology, Clinical Cancer Research, Cancer Research, Immunology, Pediatric Blood and Cancer, Bone Marrow Transplantation, Biology of Blood and Marrow Transplantation, Journal of AIDS, Journal of Leukocyte Biology, International Journal of Biochemistry and Cell Biology, Chemistry, The Journal of Immunology

INVITED EXTRAMURAL LECTURES, PRESENTATIONS AND VISITING PROFESSORSHIPS

LOCAL

1. Cytokines in Hematopoiesis, Cytokine Interest Group Minisymposia, Frederick, MD. 1999
2. POB Research Seminar, Bethesda, MD. 2000
3. Cytokines in Tolerance, Autoimmunity and Inflammation, Cytokine Interest Group Minisymposia, Bethesda, MD. 2000
4. Society for Biologic Therapy Annual Meeting, Bethesda, MD. 2001
5. Seminar Series, NIAID Intramural HIV program, Bethesda, MD. 2001
6. FDA/CBER Seminar, Bethesda, MD. 2004
7. NCI Immunology Faculty Meeting, Bethesda, MD. 2006
8. NCI Department of Transfusion Medicine Grand Rounds, Bethesda, MD. 2007
9. Immunotherapy in Pediatric Oncology: Progress and Challenges, Bethesda, MD. 2008
10. Children's National Medical Center Children's Research Institute/ Georgetown University Joint Pediatric Research Seminar, Washington, DC. 2008
11. Children's National Medical Center Grand Rounds, Washington, DC. 2009
12. Sinai Hospital, Grand Rounds, Baltimore, MD. 2009
13. Immunity, Inflammation and Cancer Meeting, Bethesda, MD. 2010
14. Cancer and Inflammation Program Symposium, Bethesda, MD. 2011
15. NCI Immunology Faculty Meeting, Bethesda, MD. 2011
16. Frontiers in Basic Immunology Symposium, Immunology and Disease Session, Bethesda, MD. 2012
17. Experimental Transplantation and Immunology Branch Research Seminar, Bethesda, MD. 2013
18. NCI Leukemia SPORE Retreat, Bethesda, MD. 2015

19. NCI Immunotherapy Center of Excellence Seminar Series, Bethesda, MD. 2016
20. ISBiotech Spring Meeting, Washington, DC. 2016
21. Invited Speaker, American Association for Immunologists, Washington, DC. 2017
22. Invited Speaker, SIOP Meeting, Session on Immunotherapy, Washington, DC. 2017
23. NCI, Center for Cancer Research Grand Rounds, Bethesda, MD. 2017
24. NIH Clinic Center Grand Rounds, Bethesda, MD. 2017

25. Invited Speaker, American Association for Cancer Research, Washington, DC. 2017
26. Invited Plenary Speaker, Colorado Biosciences Association Annual Meeting, Westminster, CO. 2018
27. Invited Speaker, Rocky Mountain Oncology Society, Denver, CO. 2018
28. Invited Speaker, University of Colorado Denver CCTSI 9th Annual Research Ethics Conference, Denver, CO. 2018
29. Invited Speaker, Zoobiquity Conference, Denver, CO. 2018

NATIONAL

1. Center for AIDS Research Seminar, Aaron Diamond AIDS Research Center, New York, NY. 2000
2. McDonnell Pediatric Research Seminar, Washington University, St. Louis, MO. 2001
3. Joint Stem Cell Transplantation/Immunology and Immunotherapy Program Seminar, University of Wisconsin Health Sciences Center, Madison, WI. 2001
4. Tolerance and Immunoregulation Plenary Session, NIH Immunology Interest Group retreat, Arlington, VA. 2002
5. Hematopoiesis and Immunology Society Seminar, Johns Hopkins Hospital, Department of Oncology, Baltimore, MD. 2002
6. Immunology Seminar Series, St. Jude Children's Research Hospital, Memphis, TN. 2002
7. Pediatric Grand Rounds, Arlington Hospital, Arlington, VA. 2003
8. Hematopoiesis/Immunology Seminar, Children's Hospital of Philadelphia, Philadelphia, PA. 2004
9. American Society of Blood and Marrow Transplantation, Immune Reconstitution Session, Orlando, FL. 2004
10. Children's Memorial Hospital Research Institute Seminar, Northwestern University, Chicago. 2005
11. Oncology Center Grand Rounds, Johns Hopkins University Hospital, Baltimore, MD. 2005
12. Center for Vaccine Biology and Immunology Seminar Series, University of Rochester, Rochester, NY. 2005
13. Apoptotic Cell Clearance, Gordon Conference, Lewiston, ME. 2007
14. Sinai Hospital, Grand Rounds, Baltimore, MD. 2009
15. Immunotherapy in Pediatric Oncology: Progress and Challenges, Houston, TX. 2010
16. Hospital Maisonneuve-Rosemont Grand Rounds, Montreal, Canada. 2012
17. MD Anderson Cancer Center, Pediatric Research Seminar, Houston, TX. 2013
18. American Association for Blood Banking, Cell Therapy Symposium, Philadelphia, PA. 2014
19. American Society of Blood and Marrow Transplantation, Symposium on Ethics in HSCT, Salt Lake City, UT. 2014

20. Forbeck Foundation, Hilton Head, SC.	2015
21. Society for Adolescent and Young Adult Oncology, Los Angeles, CA.	2015
22. American Society of Blood and Marrow Transplantation, San Diego, CA.	2015
23. AACR SU2C Scientific Session (On behalf of the Pediatric Cancer Immunogenomics Dream Team), New Orleans, LA.	2016
24. Leukemia Lymphoma Society Pediatric Strategy Expert Committee, Chicago, IL.	2016
25. Cell and Gene Therapy Seminar Series, MD Anderson, Houston, TX.	2016
26. Cancer Research Seminar Series, St. Jude's Children's Research Hospital, Memphis, TN.	2016
27. Keith Minor Ford Lecture, University of Rochester, NY.	2016
28. Cancer Center Symposium Series, University of Colorado, Denver CO.	2016
29. Seminar Series, Seattle Children's Hospital Research Institute, Seattle WA.	2016
30. Invited Speaker, American Association of Cancer Institutes Directors Meeting, Chicago, IL.	2016
31. Invited Faculty, Society for Adolescent and Young Adult Oncology Meeting, Los Angeles, CA.	2016
32. Invited Faculty, Society for Adolescent and Young Adult Oncology Meeting, Los Angeles, CA.	2016
33. Co-Chair ASH Scientific Spotlight Session: Novel approaches to improve cell therapies for Chematologic malignancies, San Diego, CA.	2016
34. Invited Speaker, Stand Up to Cancer Special Session, New Orleans, LA.	2017
35. Invited Speaker, AACR Molecular Targets Meeting, Philadelphia, PA.	2017
36. Invited Speaker, Memorial Loan Kettering Cancer CAR T cell Symposium.	2017
37. Invited Speaker, Pediatric Precision Medicine Meeting, Phoenix, AZ.	2018
38. Organizer and Speaker, Boston Society AML Meeting, Boston, MA.	2018
39. Invited Discussant, AACR, Plenary Session, Best Clinical Abstracts, Chicago, IL.	2018
40. Invited Speaker, ASCO Pediatric Immunotherapy Session, Chicago, IL.	2018
41. Invited Speaker, ASCO Pre-Meeting, New Drugs Session, Chicago, IL.	2018
42. Invited Faculty, Stanford BMT Symposium, Palo Alto, California	2018
43. Invited Speaker, SOHO, Houston, TX.	2018

INTERNATIONAL

1. International Meeting on Stem Cell Transplantation, Luigi Sacco Hospital, University of Milan, Italy.	2001
3. Annual Meeting of the Portuguese Immunology Society, Lisbon, Portugal.	2007
4. European Society for Blood and Marrow Transplantation, Istanbul, Turkey.	2015
5. Indian Association for Cancer Research, Jaipur, India.	2015
6. Pediatric Grand Rounds, Tata Memorial Cancer Center, Mumbai, India.	2015
7. 4 th International Conference on Immunotherapy in Pediatric Oncology, Seattle, WA.	2015
8. Invited Faculty, Indian Pediatric Hematology Oncology Meeting, Mumbai, India.	2016
9. Invited Speaker, Tata Memorial Cancer Center, Anniversary Pediatric Oncology Symposium, Mumbai, India	2017
10. Invited Speaker, European Hematology Association, Madrid, Spain	2017

11. Invited Speaker, Princess Maxima Center Scientific Symposium, Utrecht, Netherlands 2018

TEACHING RECORD

<u>Postdoctoral Fellows</u>	<u>Years</u>	<u>Current Position</u>
Kristen Snyder	2003-2007	Pediatric Hematology/Oncology Helen DeVos Children's Hospital
Najat Boujkouj	2008-2010	Medical Reviewer, FDA
Christian Capitini	2006-2011	Associate Professor, Pediatric Hematology/ Oncology, University of Wisconsin
Jessica Shand	2010-2013	Assistant Professor, Pediatric Hematology/ Oncology, University of Rochester
Chris Chien	2012-2016	Biologist, Pediatric Oncology Branch
Ekta Kapadia	2013-2015	Attending, Bone Marrow Transplantation, Children's Hospital of Philadelphia
Elad Jacoby	2013-2015	Attending Physician, Sheba University, Pediatric Oncology, Israel
Hannen Shalabi	2014-2018	Staff Clinician, Pediatric Oncology Branch
Eric Kohler	2015-2018	Instructor, University of Colorado Denver, Pediatrics
Sneha Ramakrishna	2016-Present	Instructor, Stanford University, Pediatrics

<u>Students</u>	<u>Years</u>	<u>Program</u>	<u>Current Position</u>
Melissa McKirdy Hazen,	2000-2001	CRTP	Pediatric Rheumatologist, Boston Children's
Chad Burke	2010-2011	HHMI	Surgery Resident, Loma Linda University
Elizabeth Hicks	2011-2012	CRTP	Pediatric Resident, VCU
Paul Su	2012-2013	HHMI	Resident, Anesthesia, Columbia

Amy Yang	2013-2018		Georgetown/NIH GPP, Ph.D. Awarded 6/2016
Tor Sauter	2015-2016	MRSP	Medical Resident, Emory University
Samiksha Tarun	2016-2017	MRSP	Medical Student, Washington University

<u>Pre- and Post- Baccalaureates</u>	<u>Years</u>	<u>Current Position</u>
Matthew Milliron	2003-04	Anesthesiologist, Charleston, SC
Sarah Herby	2003-05	Pediatric Hematology/Oncology Fellow, Emory
Megaan Walsh	2006-08	Instructor, Internal Medicine, University of Washington
Jessica Davis	2006-08	Chief Resident, Internal Medicine, Washington Hospital
Shannon Larabee	2008-10	Medical Student, Georgetown University
Joanna Meadors	2010-11	Pediatric Resident, UNC Chapel Hill
Nicole Nasholm	2010-12	Staff Associate, UCSF
Brynn Duncan	2010-12	Medical Student, Georgetown University
Tolu Arriyo	2012-13	Medical Student, Rutgers University
Waleed Haso	2013-14	Lentigen, Inc.
Sang Nguyen	2014-2016	Medical Student
Kelsey Wanhainen	2015-2016	MD/PH.D. Candidate, U. of Minnesota
Lila Yang	2016-2018	

CURRENT GRANT SUPPORT

St Baldrick's PBMTG Grant (Pulsipher) 7/1/2017-6/30/2020 0.6 calendar
Phase I Study of Anti-CD33 Chimeric Antigen Receptor Therapy in Children and Young Adults with Relapsed/Refractory Acute Myelogenous Leukemia
Develop and implement a first-in-human trial of CD33 CAR T cells in patients with pediatric AML
Role: Co-Investigator

Specialized Center of Research (SCOR) (Jordan) 09/01/2018-8/31/2023 2.4 calendar
Leukemia and Lymphoma Society Fry: \$122,206
Therapeutic Targeting of AML Stem Cells
Goal: To develop multi-modal personalized therapeutic strategies designed to eradicate AML stem cells
Project 2: Immune-based Therapy to Target Leukemia Stem Cells
Role: Project Leader, Project 2

U01CA232486-01 (Fry) 10/01/2018-8/31/2023 2.4 calendar
NIH PI-DDN \$3,142,566

Multispecific targeting incorporating cytokine receptor pathways in high risk pediatric acute leukemias to improve durability of adoptive cell therapy-induced remissions
Pre-clinical development of chimeric antigen receptors targeting cytokine receptors in combination with other leukemia-associated antigens and evaluate the impact of receptor tyrosine kinase inhibitors on multispecific CARs with the goal of preventing leukemic resistance to immunotherapy

StandUp2Cancer/St. Baldrick's Pediatric Dream Team 7/1/2013-Present
Leader: John Maris, CHOP, Co-Leader: Crystal L Mackall MD
Immunogenomics to Create New Therapies for High-Risk Childhood Cancers
Children's Hospital Colorado Site PI, Terry J. Fry

GRANT SUPPORT

2002-2007 Principal Investigator, NCI Protocol 02-C-0259, Reduced-Intensity Allogeneic Hematopoietic Stem Cell Transplantation for Patients with High-Risk Sarcomas
2009-2017 Protocol Team, 09-MRD PBMT/CIBMTR, Pre- and Post BMT MRD in AML
2012-2017 Investigator and Principal Investigator, 12-C-0112, Phase I Study of T Cells Expressing an Anti-CD19 Chimeric Receptor in Children and Young Adults with B Cell Malignancies
2013-2016 Medical Advisory Investigator, 08-C-0123, Phase I Trial of Moxetumomab Pasudotox in Children and Young Adults with ALL
2013-2016 Medical Advisory Investigator, 10-C-0220, Phase I Trial of Liposoma Vincristine (Marquibo) in Children and Young Adults with ALL
2013-2016 Medical Advisory Investigator, 11-C-0073, Phase I Trial of Expanded NK Cells following T cell Depleted alloHSCT in Children with Leukemia
2013-2016 Medical Advisory Investigator, 14-C-0175, Phase II Trial of Moxetumomab Pasudotox in Children with ALL
2013-2018 Principal Investigator, NCI Protocol 04-C-0102, Hematologic Malignancies Biology Study
2014-Present Coordinating Protocol Developer, Phase I Trial of Myeloablative Haploidentical HSCT with Post-Transplant Cyclophosphamide in Children with Hematologic Malignancies, PBMT/C Sponsored
2014-2018 IND Sponsor and Principal Investigator, NCI Protocol 15-C-0029, Anti-CD22 CAR T Cells for Refractory B Cell Malignancies
2011-2014 Co-Investigator, NIH CRADA, Development of CD22 Chimeric Antigen Receptor Based Therapy for Refractory B Cell Malignancies, Neomune Inc.
2014-2017 Principal Investigator, NIH CRADA, Development of CD22 Chimeric Antigen Receptor Based Therapy for Refractory B Cell Malignancies, Juno, Inc.
2015-2017 Principal Investigator, NIH CRADA, Development of Next Generation Chimeric Antigen Receptor (CAR)-Based Therapy Using NCI's Proprietary CARs and Encarta Therapeutics, Inc.'s Proprietary Antigen Binding Domains, Encarta

- 2015-2018 Principal Investigator, NIH CRADA, A Phase I Dose Escalation Study of Anti-CD22 Chimeric Receptor T-Cells in Pediatric and Young Adults With Recurrent or Refractory CD22 Expressing B-Cell Malignancies, Juno, Inc.
- 2017-2018 Principal Investigator, NIH CRADA, Adoptive Immunotherapy for Thymic Stromal Lymphopoeitin Receptor (TSLPR)-Positive Hematologic Malignancy with Chimeric Antigen Receptor (CAR)-Modified Lymphocytes that Includes a Safety Tag

COMPLETED SUPPORT (last 10 years):

- Hyundai Quantum Award 6/1/2016-2018
 PI: Richard Aplenc, MD, PhD
 Co-Investigator, Terry J. Fry, MD
 Development of Chimeric Antigen Receptor T cell Therapy for AML
- ZIA BC 011565 9/1/2014-2018
 PI: Terry J Fry, MD
 Adoptive T cell Therapy for Pediatric Leukemia
- ZIA BC 011295 9/1/2010-2018
 PI: Terry J Fry, MD
 ALL immunobiology and the bone marrow niche (Previously Optimizing the graft versus leukemia effect for pediatric ALL)
- William Lawrence & Blanche Hughes Foundation 1/1/2017-12/31/2018
 PI: Terry J Fry, MD
 Multispecific CAR T cell Targeting in Pediatric ALL to Prevent Antigen Loss
- 1UO1CA183030-01
 Extramural Lab PI: Yang Liu, PhD., CNMC Children's Research Institute
 Extramural Clinical PI: Reuven Schore, MD, Children's National Medical Center
 Intramural AIs: Brigitte Widemann, MD, Terry J Fry, MD and Katherine Warren, MD
 Therapeutic Elimination of Cancer Stem Cells
- Alex's Lemonade Stand 7/1/2014-6/30/2016
 PIs: Terry J Fry, MD and Chris Chien, PhD
 Targeting the Thymic Stromal Lymphopoeitin Receptor Signaling Axis to Reduce Relapse of High Risk Pediatric Acute Lymphoblastic Leukemia
- William Lawrence & Blanche Hughes Foundation 12/10/2013-12/10/2016
 PI: Terry J Fry, MD
 Development of Therapies Targeting TSLPR overexpressing ALL
- ZIA BC 011296 9/1-2010-9/1/2014

PI: Terry J Fry, MD
Development of dipeptidyl peptidase inhibitors as novel immune adjuvants

ZIA BC 011320 9/1/2010-9/1/2013
PI: Terry J Fry, MD
Targeting dendritic cells for selective modulation of Graft-versus-Host Disease

Children's Cancer Foundation 12/1/2010-11/30-2011
PI: Terry J Fry, MD
Preclinical development of dipeptidyl peptidase inhibitor as novel immunotherapeutic adjuvants in pediatric solid tumors

NJ Kids Cancer Research Foundation 7/1/2007-6/30/2009
PI: Terry J Fry, MD
Targeting solid tumors with dendritic cell vaccines following allogeneic transplantation

Children's Cancer Foundation 12/1/2005-11/30-2008
PI: Terry J Fry, MD
Preclinical development of tumor-specific vaccines targeting pediatric ALL following allogeneic stem cell transplantation

Bibliography:

Original Research Articles

1. Choo-Kang, LR, Benson, J., **Fry TJ**, and Schwartz, KB. Pneumatosis cystoides intestinalis presenting with labial crepitus in an infant with acute lymphoblastic leukemia. *J. Pediatr Gastroenterol Nutr.* 28:442-445 (1999).
2. **Fry TJ**, Christensen, BL, Komschlies KM, Gress, RE, Mackall, CL. IL-7 restores immunity in athymic T cell depleted hosts. *Blood.* 97:1524-1533 (2001). (Plenary Paper)
3. Mackall, CL, **Fry TJ**, Bare, C., Morgan, P, Galbraith, A, Gress, RE. IL-7 increases both thymic-dependent and thymic-independent pathways after BMT. *Blood.* 97:1491-1497 (2001).
4. **Fry TJ**, Connick, E., Faloon, J, Lederman, MM, Liewehr, DJ, Spritzler, J, Steinberg, SM, Wood, L.V., Yarchoan, R., Zuckerman, J, Landay, A, Mackall, CL. A potential role for IL-7 in T cell homeostasis. *Blood.* 97:2983-2990 (2001).
5. Sinha, M., **Fry TJ** (1), Fowler, D., Miller, G., Mackall, C.L. IL-7 worsens graft versus host disease. *Blood.* 100:2642-2649 (2002).
6. Khaled, A.R., Li, W.O., Huang, J, **Fry TJ**, Khaled, A.S., Mackall, CL, Muegge, K, Young, H, Durum, SK. Bax deficiency partially corrects interleukin-7 receptor alpha deficiency. *Immunity.* 5:561-573 (2002).

7. **Fry TJ**, Moniuszco, M, Creekmore, S, Donohue, S, Douek, D, Giardina, S, Hecht, T, Hill, B, Komschlies, K, Tomaszewski, J, Franchini, G, Mackall, C. IL-7 therapy dramatically alters peripheral T cell homeostasis in normal and SIV infected non-human primates. *Blood*. 101:2294-2299 (2003).
8. Melchionda, F, McKirdy, MK, Medieros, F, **Fry TJ**, Mackall, C. Escape from Immune Surveillance does not Result in Tolerance to Tumor-associated Antigens. *Journal of Immunotherapy*. 27:329-338 (2004).
9. **Fry TJ**, Sinha, M., Chu, ., Gress, R, Thomas, E., Mackall, CL. Flt 3 Ligand Enhances Thymic-Dependent and Thymic-Independent Immune Reconstitution. *Blood*. 104:2794-2800 (2004).
10. Moniuszko, M., **Fry TJ**, T, Tsai, W., Morre, M, Buffet, R, Assouline, B, Cortez, P, Lewis, M.G., Cairns, S., Mackall, C., Franchini, G. Recombinant IL-7 induces proliferation of Naïve macaque CD4+ and CD8+ T cells in vivo. *Journal of Virology*. 78:9740-9749 (2004).
11. Al-Shami, A., Spolski, R., Kelly, J., **Fry TJ**, Schwartzberg, P., Pandey, A., Mackall, C., Leonard, W. A role for Thymic Stromal Lymphopoietin (TSLP) in CD4+ T cell development. *J Exp Med*. 200:159-168 (2004).
12. Melchionda, F., **Fry TJ**, Milliron, M.J., McKirdy, M.K., Tagaya, Y., Mackall, C.L. Adjuvant IL-7 or IL15 overcomes immunodominance and Improves survival of the CD8+ Memory Cell Pool. *Journal of Clinical Investigation*. 115:1177-1187 (2005).
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