BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Zejing Wang	Research Assistant Professor Associate in Clinical Research
eRA COMMONS USER NAME (credential, e.g., agency login) ZEJINGWANG	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
Zhejiang University, PR China	MD	1993	Medicine
University of Washington, Seattle, WA	PhD	2007	Molecular/Cellular Biology

A. Personal Statement

I have extensive experience in studying Duchenne muscular dystrophy with a focus on the dog model of the disease (cxmd dogs) and the development of gene therapy approaches for over 10 years. I have played a leading role in establishing and developing gene therapy research for DMD at FHCRC. We assembled first canine micro-dystrophin and were among the first to demonstrate cellular immunity to AAV capsid protein first hand in 2005. We have pioneered the characterization of immune responses to AAV-mediated therapies in the dog model, and have developed the first transient immunosuppressive regimen that permits sustained transgene expression in DMD-affected dogs. We are the first to demonstrate the feasibility of using noninvasive MRI for assessing local immune responses to AAV in skeletal muscle. Our research focus is immune responses to AAV and the development of strategies for successful gene treatment in the preclinical DMD dog model.

B. Positions and Honors

Professional Positions

1997-1998 Postdoctoral Fellow, Department of Urology, Yale University
1999-2002 Postdoctoral Fellow, Department of Urology, University of Washington (UW)
2003-2004 Postdoctoral Fellow, Fred Hutchinson Cancer Research Center (FHCRC), Seattle, WA
2004-2007 Graduate Student (PhD), Molecular/Cellular Biology Program. UW, Seattle, WA
2007-2010 Research Associate, FHCRC, Seattle, WA
2010-current Associate in Clinical Research, FHCRC, Seattle, WA
2010-current Research Assistant Professor in Medical Oncology, UW, Seattle

Other Experience and Professional Memberships

2012-current Active Member, American Heart Association
2012-current Member of Basic Cardiovascular Science Council
2012-current Member of Cardiovascular Disease in the Young Council
2011-current Review Editor, Editorial Board, Frontiers in Integrative and Regenerative Pharmacology
2010-current Active Member, American Society of Gene and Cell Therapy
2005-2010 Associate Member, American Society of Gene Therapy

Scholarships and Grants

1989-1992 Scholarship for Academic Excellence, School of Medicine, Zhejiang University, P.R. China
1989-1993 Honor Student, School of Medicine, Zhejiang University, P.R. China
1994-1997 Fellowship, Department of Biology, Wesleyan University
2004-2007 Fellowship, Molecular and Cellular Biology, UW

2009-2011 Career Development Award, Muscular Dystrophy Association
2013-2016 Research Grant, Muscular Dystrophy Association

C. Selected peer-reviewed publications (in chronological order)

1. Dell'Agnola C*, **Wang Z***, Storb R, Tapscott SJ, Kuhr CS, Hauschka SD, Lee RS, Sale GE, Zellmer E, Gisburne S, Bogan J, Kornegay JN, Cooper BJ, Gooley TA, Little MT: Hematopoietic stem cell transplantation does not restore dystrophin expression in Duchenne Muscular Dystrophy dogs. Blood 104:4311-4318, 2004 (*co-first author).
2. **Wang Z**, Allen JM, Riddell SR, Gregrevic P, Storb R., Tapscott SJ, Chamberlain JS and Kuhr CS: Immunity to adeno-associated virus-mediated gene transfer in a random-bred canine model of Duchenne muscular dystrophy. Human Gene Therapy 18: 18-26, 2007.
3. **Wang Z**, Kuhr CS, Allen JM, Blankinship M, Gregrevic P, Chamberlain JS, Tapscott SJ and Storb R: Sustained AAV-mediated dystrophin expression in a canine model of Duchenne muscular dystrophy with a brief course of immunosuppression. Molecular Therapy 15: 1160-1166, 2007.
4. Parker MH., Kuhr C, **Wang Z**, Tapscott SJ, Storb, R. Hematopoietic cell transplantation provides an immune-tolerant platform for myoblast transplantation in dystrophic dogs. [Corrigendum, Molecular Therapy, 17 (2), 396 (2009)] Molecular Therapy 16: 1340–1346, 2008. *PMCID: PMC2536604*
5. **Wang Z**, Tapscott SJ, Chamberlain JS and Storb R: Gene Therapy in large animal model of muscular dystrophy (review) ILAR Journal 50(2): 187-198, 2009. *PMCID: PMC2765825*
6. **Wang, Z**., R. Storb, D. Lee, M. J. Kushmerick, B. Chu, C. Berger, A. Arnett, J. Allen, J.S. Chamberlain, S.R. Riddell, and S. J. Tapscott. Immune responses to AAV in canine muscle monitored by cellular assays and non-invasive imaging. Molecular Therapy, 18(3), 617-24, 2010. *PMCID: PMC2839426*
7. Halbert CL, Madtes DK, Vaughan AE, **Wang Z**, Storb R, Tapscott SJ, Miller AD. Expression of Human alpha1-antitrysin in mice and dogs following AAV6 vector-mediated Gene transfer to the lungs. Molecular Therapy 18 (6):1165-72, 2010. *PMCID: PMC2889746*
8. **Wang, Z**., M.L. Sorror, W.Leisenring, G.Schoch, D. Maloney, B.M. Sandmaier, and R. Storb. The Impact of Donor Type and ABO Incompatibility on Transfusion Requirements after Nonmyeloablative Hematopoietic Cell Transplantation (HCT). British Journal of Heamatology, 149 (1): 101-110, 2010. *PMCID: PMC2864362*
9. **Wang Z**, Tapscott SJ, Storb R. Local gene delivery and methods to control immune responses in muscles of normal and dystrophic dogs. Methods Mol Biol. 709:265-75, 2011. PMCID: NA - Book Chapter
10. **Wang Z**, Tapscott SJ, Chamberlin JS, Storb R. Immunity and AAV-mediated gene therapy for muscular dystrophies in large animal models and human trials. Front Microbiol 2:201, 2011. *PMCID: PMC3180173*
11. Arnett ALH, Garikapati D, **Wang Z**, Tapscott SJ, and Chamberlain JS. Immune responses to rAAV6: The influence of canine parvovirus vaccination and neonatal administration of viral vector. Front Microbiol 2:220, 2011 *PMCID: PMC3207220*
12. **Wang Z**, Storb R, Tapscott SJ and Riddell R. Analyzing cellular immunity to AAV in a canine model using ELISpot assay. Methods Mol Biol. 792:65-74, 2012. *PMCID: PMC NA – Book Chapter*
13. **Wang Z**, Storb R, Halbert C, Banks G, Butts T, Finn E, Allen J, Miller D, Chamberlain JS, Tapscott S. Successful regional delivery and long-term expression of a micro-dystrophin gene in canine muscular dystrophy: a preclinical model for human therapy Mol Ther 8:1501-7, 2012. *PMCID: PMC3412492*
14. Kerwin WS, Naumova A, Storb R, Tapscott SJ, **Wang Z**. Mapping contrast agent uptake and retention in CMRI studies of myocardial perfusion: Case control study of dogs with Duchenne Muscular Dystrophy : Int J Cardiovasc Imaging. 4: 819-26, 2013 *PMCID: PMC3594362*

D. Research Support

Active

Research Grant **276443 (P.I.: Wang Z)** **08/01/13 -07/31/16**
Muscular Dystrophy Association

Gene therapy for treating cardiomyopathy in a dog model of DMD
The overall goal of this proposa is to determine if immune modulation enhances the efficiency of intracoronary AAV-mediated gene delivery to the myocardium.

R01 AR 056949-03 (P.I.: Tapscott, S.) 07/01/09 - 06/30/14
NIH
Preclinical Gene Therapy Studies in Canine Muscular Dystrophy
The overall goal of this proposal will be to develop AAV mediated gene therapy strategies in cxmd dogs that can be applied to human patients with DMD.
Role: Co-investigator

MDA P.I.: Childers, MK 7/1/2011-6/30/2014
Muscular Dystrophy Association
Gene therapy in canine myotubular myopathy
The overall goal of this translational project is to bring to clinical trial a gene therapy product for patients with X-linked myotubular myopathy (XLMTM) in a XLMTM dog model. We will use an adeno-associated virus (AAV) myotubularin vector infused intravenously into a hind limb to 1) determine the safety and efficacy of gene replacement therapy in canine XLMTM; and 2) determine effects of short-term immunosuppression on vector-mediated immune responses and the efficacy of gene replacement therapy in XLMTM dogs.
Role: Significant contributor

Completed

Career Development Award 91672 (P.I.: Wang, Z) 1/1/2009 – 12/31/2011
Muscular Dystrophy Association
Immunological barrier to AAV-mediated gene therapy in a canine model of DMD
This proposal will develop and validate assays to better characterize immune responses to AAV vectors and transgene in dogs; evaluate novel, transient, more effective and virtually non-toxic immunosuppression using T-cell costimulatory blockers and regulatory molecules to induce immunological tolerance to both transgene and AAV vectors; and address two critical issues: 1) prevention of primary immune responses and induction of tolerance to both vector and transgene, and 2) overcoming memory immunity to AAV.