

BIOGRAPHICAL SKETCH

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NAME Wei Cao		POSITION TITLE Assistant Professor	
eRA COMMONS USER NAME WEICAO1			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Tsinghua Univ., Beijing, China	B.S. (equiv)	1991	Biology
Univ. of N. Carolina at Chapel Hill, NC, USA	Ph.D.	1995	Biochemistry
The Scripps Research Institute	postdoc	1995-1999	Molecular Virology

A. POSITIONS AND HONORS

9/1995 - 9/1998 Postdoctoral Research Associate, The Scripps Research Institute
 10/1998- 2/1999 Senior Research Associate, The Scripps Research Institute
 3/1999 -12/2001 Production Manager II and Scientist III, Aviron (MedImmune) Co.
 7/2002 - 3/2003 Research Scientist, Univ. of Texas M.D. Anderson Cancer Center
 4/2003 - 8/2006 Instructor, Department of Immunology, Univ. of Texas M.D. Anderson Cancer Center
 9/2006 - 8/2008 Assistant professor (non-Tenure Track), Department of Immunology, Univ. of Texas M.D. Anderson Cancer Center
 11/2007- Adjunct Member, Univ. of Texas Graduate School of Biomedical Sciences, Houston, Texas
 9/2008- Assistant professor (Tenure Track), Department of Immunology, Univ. of Texas M.D. Anderson Cancer Center

Honors and Awards

1988 Outstanding Student Award, Tsinghua University
 1995 NIAID Postdoctoral Training Fellowship
 1997 Travel Grant, Scripps Society of Fellows
 2007 Junior Faculty Travel Award, The American Association of Immunologists
 2008 Cynthia Chambers Memorial-eBioscience, Inc., Junior Faculty Award, The American Association of Immunologists
 2008 Grant Reviewer (Ad hoc), Innate Immunity and Inflammation Study Section (NIH)

Professional Memberships

American Association of Immunologist
 American Association for the Advancement of Science
 American Society for Virology
 Federation of American Societies of Experimental Biology

B. PUBLICATIONS

1. Ke H, Mayrose D, **Cao W**. Crystal structure of cyclophilin A complexed with substrate Ala-Pro suggests a solvent-assisted mechanism of cis-trans isomerization, **Proc. Natl. Acad. Sci. USA** 90, 3324-3328, 1993

2. Kassenbrock CK, **Cao W**, Douglas MG. Genetic and biochemical characterization of ISP6, a small mitochondrial outer membrane protein associated with protein translocation complex, **EMBO J.** 12, 3023-3034, 1993
3. **Cao W**, Douglas MG. Biogenesis of ISP6, a small carboxy terminal anchored protein of the receptor complex of the mitochondrial outer membrane, **J. Biol. Chem.** 270, 5674-5679, 1995
4. **Cao W**, Douglas MG. Specific targeting of ISP6 to mitochondria is mediated by sequences other than its amino terminus, **Biochem. Biophys. Res. Comm.** 224: 457-461, 1996
5. **Cao W**, Oldstone MBA, de la Torre JC. Viral persistent infection affects both transcriptional and posttranscriptional regulation of neuron-specific molecule GAP43, **Virology** 230: 147-154, 1997
6. **Cao W**, Henry MD, Borrow P, Yamada H, Elder JH, Ravkov EV, Nichol ST, Compans RW, Campbell KP, Oldstone MBA. Identification of α -dystroglycan as a receptor for Lymphocytic Choriomeningitis Virus and Lassa Fever Virus, **Science** 282: 2079-208, 1998
7. **Cao W**, Henry MD, Borrow P, Yamada H, Elder YJ, Campbell KP, Oldstone MBA. Isolation of a cellular receptor for Lymphocytic Choriomeningitis Virus and Lassa Fever Virus, **Emergence and control of rodent-borne viral diseases** (Hantaviruses and Arenaviruses), 225-231, 1999
8. Smelt SC, Borrow P, Kunz S, **Cao W**, Tishon A, Henry MD, Campbell K, Oldstone MBA. Differences in affinity of binding of Lymphocytic Choriomeningitis Virus isolates to the cellular receptor α -dystroglycan correlate with viral tropism and disease kinetics. **J Virol.** 75: 448-57, 2001
9. Watanabe N, Wang Y-H, Lee HK, Ito T, Wang Y-H, **Cao W**, Liu Y-J. Hassall's corpuscles instruct dendritic cells to induce CD4⁺CD25⁺ regulatory T cells in human thymus. **Nature** 436:1181-5, 2005
10. Ito T, Wang Y-H, Duramad O, Toshiyuki H, Delespesse GJ, Qin FX-F, Yao Z, **Cao W**, Liu Y-J. TSLP-activated dendritic cells induce an inflammatory T helper type 2 cell response through OX40 ligand. **J. Exp. Med.** 202:1213-1223, 2005
11. Ito T, Kanzler H, Duramad O, **Cao W**, Liu Y-J. Specialization, kinetics, and repertoire of type 1 interferon responses by human plasmacytoid dendritic cells. **Blood** 107:2423-31, 2006
12. Hanabuchi S, Watanabe N, Ito T, Wang YH, Wang YH, **Cao W**, Qin FX-F, Liu Y-J. Plasmacytoid dendritic cells activate NK cells through GITR-ligand. **Blood** 107:3617-23, 2006
13. **Cao W**, Rosen DB, Ito T, Bover L, Bao M, Watanabe G, Zhang L, Lanier LL, Liu Y-J. Plasmacytoid Dendritic Cell-Specific Receptor ILT7/Fc ϵ R1 γ Inhibits Toll-Like Receptor-Induced Interferon Production. **J. Exp. Med.** 203:1399-1405, 2006
14. **Cao W**, Liu Y-J. Osteopontin: a new player in regulating IFN-response of pDC. **Nat Immunol.** 7: 441-443, 2006
15. **Cao W**, Liu YJ. Innate immune functions of plasmacytoid dendritic cells. **Curr Opin Immunol.** 18:1-7, 2007

Principal Investigator/Program Director (Last, First, Middle): Cao, Wei

16. **Cao W**, Zhang L, Rosen DB, Bover L, Watanabe G, Bao M, Lanier LL, Liu Y-J: BDCA2 and FcεRIγ Complex Signals through a Novel BCR-like Pathway in Human Plasmacytoid Dendritic Cells. **PLoS Biology** 5: e248, 2007.
17. Lande R, Gregorio J, Facchinetti V, Chatterjee B, Wang Y-H, Homey B, **Cao W**, Wang Y-H, Su B, Nestle FO, Zal T, Mellman I, Schroder J-M, Liu Y-J, Gilliet M. Plasmacytoid dendritic cells sense self-DNA coupled with an antimicrobial peptide. **Nature** 449:564-9, 2007.
18. Rosen DB, **Cao W**, Avery DT, Tangye SG, Liu Y-J, Houchins JP, Lanier LL. Functional consequences of interactions between human NKR-P1A and its ligand LLT1 expressed on activated dendritic cells and B cells. **J. Immunol.** 180: 6508 - 6517 (2008).
19. **Cao W***, Gilliet M*, and Liu Y-J. Plasmacytoid dendritic cells: sensing nucleic acids in viral infection and autoimmune diseases. **Nature Reviews Immunology** advance online publication, 18 July 2008 | doi:10.1038/nri2358. (* equal contribution)
20. **Cao W**. Innate Immune Activation and Regulation of Plasmacytoid Dendritic Cells in **New Research on Innate Immunity**, Nova Science Publishers, Inc., in press.

C. RESEARCH SUPPORT

Grant Number: 1R01 AI074809

PI: Wei Cao

Dates of Project: 8/1/2007-7/31/2012

Granting Agency: NIH/DHHS

Title: Receptors of Plasmacytoid Dendritic Cells and Their Ligands

The objective of this grant is to study the surface receptors expressed by human plasmacytoid dendritic cells and their interaction to the cognitive biological ligands. Wei Cao is PI of the grant and responsible for all aspects of the program.

Grant Number: Research Startup Fund

PI: Wei Cao

Dates of Project: 9/1/2008-8/31/2013

Granting Agency: MD Anderson Cancer Center

The objective of this grant is to establish an independent research program. Wei Cao is PI of the grant and responsible for all aspects of the program.