

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed on Form Page 2.

Photocopy this page or follow this format for each person.

NAME	POSITION TITLE		
<b>Yung Chang, MD, PhD</b>	Associate Professor		
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
Beijing Medical University, Beijing, China	MD.	1978-1983	Medicine
U. Iowa, Iowa City, IA	Ph.D.	1983-1988	Immunology

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with present position, list, in chronological order, previous employment, experience, and honors. Include present membership on any Federal Government public advisory committee. List, in chronological order, the titles, all authors, and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. If the list of publications in the last three years exceeds two pages, select the most pertinent publications. **DO NOT EXCEED TWO PAGES.**

**Professional Experience**

Associate Professor	School of Life Sciences, Arizona State University, AZ	2003-present
Associate Professor	Microbiology, Arizona State University, AZ	2002-2003
Assistant Professor	Microbiology, Arizona State University, AZ	8/96-2002
Adj. Assist. Professor	Microbiology, Arizona State University, AZ	11/95-8/96
Post-Doc. Assoc.	The Institute for Cancer Research, Fox Chase Cancer Center, PA Mentor: Melvin Bosma	7/91-1/95
Post-Doc. Fellow.	Biochemistry, Boston University, MA, Mentor: Gail Sonenshein	11/88-12/90
Graduate Student	Microbiology/Pathology, University of Iowa Mentor: Richard G. Lynch	8/83-8/88

**Selected Publications**

1. **Chang, Y.**, G. C. Bosma and M. J. Bosma. 1995. Development of B cells in scid mice with immunoglobulin transgenes: Implications for the control of VDJ recombination. *Immunity* 2: 607-616.
2. **Chang, Y.** and M. J. Bosma. 1997. Immunoglobulin transgenic scid mice: requirements for the rescue of scid B cell differentiation. *Int. Immunol.* 9:373-380.
3. **Chang, Y.**, and Brown, M. L. 1999. Formation of coding joints in V(D)J recombination-inducible scid pre-B cell lines. *Proc. Natl. Acad. Sci. USA* 96: 191-196.
4. **Chang, Y.**, M. J. Bosma and G. C. Bosma. 1999. Extended duration of DH-JH rearrangement in immunoglobulin heavy chain transgenic mice: implications for regulation of allelic exclusion. *J. Exp. Med.* 189: 1295-1305.
5. Bosma, G.C., **Y. Chang**, and M. J. Bosma, 1999. Differential effect of an immunoglobulin m transgene on development of pre-B cells in fetal and adult scid mice. *Proc. Natl. Acad. Sci. USA* 96:11952-11957.
6. Brown, ML, S. Lew, **Y. Chang** 1999. Coding end resolution in scid recombination-inducible cell lines. *Gene Therapy and Molecular Biology* Vol. 4:405-410.

7. Brown, M. L and **Y. Chang**. 2000. Metabolism of recombination coding ends in scid cells. *J. Immunol.* 164:4135-4142.
8. Lew, S., D. Franco and **Y. Chang**. 2000. Activation of V(D)J recombination induces the formation of interlocus joints and hybrid joints in scid pre-B cell lines. *Mol. Cell. Biol.* 20(19):7170-7.
9. Brown, M. L., S. Lew and **Y. Chang**. 2000. The scid recombination-inducible cell line: a model to study DNA-PK-independent V(D)J recombination. *Immunol. Letter.* 75: 21
10. Perkins, E. J., A. Nair, D. O. Cowley, T. Van Dyke, **Y. Chang** and D. A. Ramsden. 2002. Sensing of intermediates in V(D)J recombination by ATM. *Genes & Dev.* 16:159-164.
11. Brown, M. L., D. Franco, A. Bürkel and **Y. Chang**. 2002. Role of PARP in DNA- PK independent recombination. *Proc. Natl. Acad. Sci. USA* 99:4532-4537.
12. Middlebrook AJ, C. Martina, **Y. Chang**, R. J. Lukas & D. DeLuca. 2002. Effects of nicotine exposure on T cell development in fetal thymus organ culture: arrest of T cell maturation. *J Immunol.* 169:2915-2924.
13. Martina, C., A. Bell, J. Wayne and **Y. Chang**. 2003. In vivo ligation of CD3 on neonatal scid thymocytes blocks g-irradiation-induced TCR $\beta$  rearrangements and thymic lymphomagenesis. *Immunol. Letter.* 85: 279-286.
14. Jacobson, E., T. Beach, Y. Shen, R. Li, & **Y. Chang**. 2004. Reduction of the Mre11 DNA repair complex in Alzheimer's Diseases. *Mol. Brain Res.* 128:1-7
15. Pettit, G. R., H. Hoffman, H. D. L Herald, P. M. Blumberg, E. Hamel, J. M. Schmidt, **Y. Chang**, R. K. Pettit, N. E. Lewin and L. V. Pearce. 2004. Antineoplastic agents. 499. Synthesis of hystatin 2 and related 1H-benzo[de][1,6]-naphthyridinium salts from aaptamine. *J. Med. Chem.* 47: 1775-1782.
16. Chen, Y., T. Fu. T. Tao, J. Yang, **Y. Chang**, M. Wang, L. Kim, L. Qu, J. Cassady, R. Scalzo & X. Wang. 2005. Macrophage activating effects of new alkamides from the roots of Echinacea species. *J. Nat. Prod.* 68: 773-776.
17. Jacobsen, E. O. Ananieva, M. L. Brown and **Y. Chang**. 2006. Growth, differentiation and malignant transformation of pre-B cells mediated by inducible activation of v-Abl oncogene. *J. Immunol.* 176:6831-6838.
18. Bogani, F. E. McConnell, L. Joshi, **Y. Chang**, G. Ghirlanda. 2006. A designed glycoprotein analogue of Gc-MAF exhibits native-like phagocytic activity. *J. Am. Chem. Soc.* 128:7142-7143.
19. Li, Z., **Y. Chang**. 2006. V(D)J recombination in zebrafish: normal joining products with accumulation of unresolved coding ends and deleted signal ends. *Mol. Immunol.* In press.
20. Zhong, H., Z. Li, S. Lin and **Y. Chang**. 2006. Initiation of V(D)J recombination in zebrafish (*Danio rerio*) ovaries. *Mol. Immunol.* In press.
21. Franco, D. **Y. Chang**. 2006. Monitoring interactions between recombination ends and protein complexes in intact nuclei of wild type and immunodeficient cells. *MCB, under revision.*

## Research Support

### Active

NIH 2R01CA73857                      Effect of V(D)J recombination on scid B cell development,                      50%

PI: Yung Chang                      1/1/03-12/31/07 (\$1,230,000)

Investigate how scid lymphocytes resolve recombination intermediates and determine how end resolution affects scid cells in vitro.

NIH Effect of Nicotine on T cell development. 15%

PI: Deluca (U. of Arizona) 9/1/03-12/31/07, total DC: \$210,408

The long-term objective of this project is to establish roles played by nicotinic acetylcholine receptors (nAChR) and exposure to the tobacco alkaloid, nicotine, in development and function of the immune system.

NIH/NIAID Disabling Vaccinia Ifnr: A New Smallpox Vaccine 10%

PI: B. Jacob 7/10/05-6/30/09

The proposed studies intend to develop an effective and safer vaccine to protect against Smallpox.

***Completed research support***

R291CA73857 Effect of V(D)J recombination on scid B cell development,

NIH/NCI (PI: Chang) 9/1/98-8/31/03 (\$370,000)

"Effect of V(D)J recombination on scid B cell development" (Investigate how scid lymphocytes resolve recombination intermediates and determine how end resolution affects scid cells in vitro).

NIST (ATP) Microfluidic Device for Diagnosis of Nosocomial Agents

Co-PI: Yung Chang (Collaborated with Motorola, \$183,599)

The main objective of this project is to develop a prototype of a microfluidic sample preparation chip, which will be monolithically integrated with a novel form of biochip. The PI on this grant is Dr. Pitor Grodzinski (Motorola) with Dr. Dr. A. Prezkwas (CFDRC) and Dr. Chang (ASU) as Co-PIs.

ADCRC In vivo Efficacy Evaluation of New Anti-cancer Drugs

Co-PI: Yung Chang 2000-2003 (\$345,938)

The long-term objective of this project is to use animal models to screen and identify the most effective anti-cancer drugs. Several novel drugs have been demonstrated in human tumor cell lines for their potential in inhibiting tumor growth. To translate this finding into final clinical applications, the efficacy and toxicity of these drugs will be tested in an animal model. The PI on this grant is Dr. Jean Schmidt (ASU) with Dr. Chang as Co-PI.

NCRR The BD FACS Aria, a new flow cytometer sorter

PI: Y. Chang 0404-0305, \$367,890

This proposal is a joined effort to obtain a newly developed FACS Aria Cell Sorter to conduct a variety of biomedical studies at ASU.

Gaia Herbs, Inc. Evaluation of Echinacea: its Toxicity and Immune Modulation

PI: Y. Chang 01/03-12/05, \$167,036

This proposal is to evaluate activities of herbal extracts on both innate and adaptive immune responses.