

## Xiao(Shaw) Tang Hu

### Research Interest

My research interest is “Cell Signaling and Cancer”: (1) I’m studying the molecular mechanisms that are responsible for cell cycle control and growth factor (with an emphasis on TGFbeta)-mediated growth inhibition in human myeloid leukemia cells, which involves several cell cycle regulatory molecules and tumor repressor genes; (2) I ‘m studying the molecular events in cytokine/drug (with an emphasis on tumor necrosis factor)-induced apoptosis.

### Peer-Reviewed Publications (corresponding author for 1-14, selected from a total of 30 papers)

1. Montenegro DE, Franklin T, Moscinski LC, Zuckerman KS, **Hu XT** (2009) TGFβ inhibits GM-CSF-induced phosphorylation of ERK and MEK in human myeloid leukemia cell lines via inhibition of phosphatidylinositol 3-kinase (PI3-k) *Cell Proliferation* 41 (1) (in press).
2. **Hu X** (2008) TGFβ-mediated formation of pRb-E2F complexes in human myeloid leukemia cells. *Biochem Biophys Res Commun* 369:277-280 (invited review paper).
3. **Hu X**, Cui DM, Moscinski L, Zhang X, Maccachero V, and Zuckerman KS (2007). TGFβ regulates the expression and activities of G2 checkpoint kinases in human myeloid leukemia cells. *Cytokine* 37:155-162.
4. **Hu X**. Proteolytic signaling by TNFalpha: caspase activation and IkappaB degradation. *Cytokine*. 2003, 21:286-94.
5. **Hu X**, Bryington M, Fisher AB, Liang X, Zhang X, Cui D, Datta I, Zuckerman KS. Ubiquitin/proteasome-dependent degradation of D-type cyclins is linked to tumor necrosis factor-induced cell cycle arrest. *J Biol Chem*. 2002, 277:16528-37.
6. **Hu X**, Zhang X, Zhong Q, Fisher AB, Bryington M, Zuckerman KS. Differential effects of transforming growth factor on cell cycle regulatory molecules in human myeloid leukemia cells. *Oncogene*. 2001, 20:6840-50.
7. **Hu X**, Janssen WE, Moscinski LC, Bryington M, Dangsupa A, Rezai-Zadeh N, Babbin BA, Zuckerman KS. An IkappaBalpha inhibitor causes leukemia cell death through a p38 MAP kinase-dependent, NF-kappaB-independent mechanism. *Cancer Res*. 2001, 61:6290-6.
8. Hu X, Zuckerman KS. Transforming growth factor: signal transduction pathways, cell cycle mediation, and effects on hematopoiesis. *J Hematother Stem Cell Res*. 2001, 10:67-74.
9. **Hu X**, DW Cress, Q Zhong, and KS Zuckerman. (2000) Transforming growth factor-beta inhibits the phosphorylation of pRb at multiple serine/threonine sites and differentially regulates the formation of pRb family-E2F complexes in human myeloid leukemia cells. *Biochem Biophys Res Commun* 276: 930-939.
10. **Hu X**, Zuckerman KS. Cell cycle and transcriptional control of human myeloid leukemic cells by transforming growth factor beta. *Leuk Lymphoma*. 2000, 38:235-46.
11. **Hu X**, Moscinski LC, Valkov NI, Fisher AB, Hill BJ, Zuckerman KS. Prolonged activation of the mitogen-activated protein kinase pathway is required for macrophage-like differentiation of a human myeloid leukemic cell line. *Cell Growth Differ*. 2000, 11:191-200.

12. **Hu X**, Tang M, Fisher AB, Olashaw N, Zuckerman KS. TNF-alpha-induced growth suppression of CD34+ myeloid leukemic cell lines signals through TNF receptor type I and is associated with NF-kappa B activation. *J Immunol.* 1999, 163:3106-15.
13. **Hu X**, Moscinski LC, Zuckerman KS. Transforming growth factor beta inhibits growth of more differentiated myeloid leukemia cells and retinoblastoma protein phosphorylation at serine 795. *Exp Hematol.* 1999, 27:605-14.
14. **Hu X**, Moscinski LC, Hill BJ, Chen Q, Wu J, Fisher AB, Zuckerman KS. Characterization of a unique factor-independent variant derived from human factor-dependent TF-1 cells: a transformed event. *Leuk Res.* 1998, 22:817-26.
15. **Hu X**, Zuckerman KS. Cloning and sequencing of an alternative splicing-derived cDNA variant of the GM-CSF receptor alpha subunit, which encodes a truncated protein. *Am J Hematol.* 1998, 58:145-7.
16. **Hu X** and Zuckerman KS (1996) Removing monolayer cells from culture dishes by incubation with EDTA in studies of cell surface receptors. *BioTechniques* 21: 784-786.
17. **Hu X**, Zuckerman KS. (1995): Isolation by RT-PCR and analysis of full-length cDNA clones from human blood mononuclear cells encoding the common beta-subunit of GM-CSF, IL-3 and IL-5 receptors. *Focus* 17 (1), 21-24.
18. Unlap T, **Hu X** (1995): Direct identification of recombinant clones in Escherichia coli utilizing supercoiled DNA. *BioTechniques* 18 (4) 590-594.
19. **Hu X**, Emanuel PD, Zuckerman KS. (1994): Cloning and sequencing of the cDNAs encoding two alternative splicing-derived variants of the alpha-subunit of the granulocyte-macrophage colony-stimulating factor receptor. *Biochem. Biophys. Acta* 1223 306-308.
20. **Hu X**, Xu Y, Zhou Y (1990) The Effect of Carbamylcholine on CFU-S differentiation. *Inter J Cell Cloning* 8:377-384

### Book Chapters

1. **Hu X** and Zuckerman KS (2008) TGFβ: a unique and powerful negative regulator of the cell cycle in human myeloid leukemia cells. In F Columbus (Ed.), *Cell Cycle Control: New Research*, Hauppauge, NY: Nova Publisher (in press)
2. Zuckerman KS, Emanuel PD, **Hu X** (1992): Molecular Pathophysiology of Juvenile Chronic Myeloid Leukemia. In: Abraham NG, Marks PA, Konwalinka G, Sachs L, Tavassoli M(eds), *Molecular Biology of Hematopoiesis* 1992, Intercept Scientific, Medical, & Technical Publications, Ltd, Andover, Hampshire, England.

### Cell Line

TF-1a cell line I established was deposited in ATCC (ATCC # CRL-2451) in 2003. The cell line is available for researchers around the world.

### GenBank Data

**Hu X** et al (1997): GM-CSF-Rα<sub>S3</sub> (The accession number: U93096).

**Hu X** et al (1994): (1) GM-CSF-R $\alpha$ <sub>s2</sub> (The accession number: L29348);

### **Honors/Awards**

- 1 2005 MARC travel award from FASEB Career Resources/MARC program/NIH
- 2 1989 Royal Fellowship from the Royal Society of Britain, London, The United Kingdom (certification available upon request).
- 3 1988 Boehringer Inhelheim Funds from Boehringer Inhelheim Corporation, West Germany (certification available upon request).
- 4 1988 Re. Robert White Fellowship from British Society for Immunology, London, the United Kingdom.

### **Professional Memberships**

- 1 American Society for Cell Biology (Active)
- 2 American Association for the Advancement of Science (Active)
- 3 International Society of Experimental Hematology (1998-2007)
- 4 International Society of Cytokine (2002-2003)
- 5 Membership in Residence of H. Lee Moffitt Cancer Center and Research Institute (1995-2003)
- 6 The American Society of Hematology (1994-1997)
- 7 The British Society for Immunology (1990-1991)