

NHLBI Research Summary (5/15/09)

Description	Number
Patent Applications and Invention Disclosures	7
Publications – Including those In Press	75
Submitted Manuscripts and Manuscripts Under Revision	9
Manuscripts in Preparation	17
Submitted and Published Abstracts	26
Publications in Cell (1), Nature(1), Nature Biotechnology(1), PNAS (7), Science (2)	12
Contract Duration	9/30/02-9/29/09 = 7 years
First Publication	2003

**Patent Applications and Invention Disclosures, Publications, and Abstracts from the
Yale/NHLBI Proteomics Center**

Patent Applications and Invention Disclosures

1. Schepartz, A. and Gemperli, A.; Methods for the design of cell permeable peptides and proteins. Public disclosure at Aventis on May 19, 2004.
2. Gulcicek, E., Bruce, C., Shifman, M., and Williams, K. (2005) Use of Fractional Mass for Mass Spectrometric Detection of Phosphopeptides (provisional US patent application).
3. Pevsner, P. (NYU), Naftolin, F., Fadiel, A., and Gulcicek, E. (2005) Transthoracic cardiac perfusion impregnation of organs in live experimental animals for subsequent study by biochemical methods. (provisional US patent application)
4. Schepartz, A., Chin, J., Zutshi, R., Rutledge, S., Martin, J., and Zondlo, N. (2005). DNA and Protein Binding Miniature Proteins.
5. Zhao, H., Williams, K., Wu, B., Stone, K., McMurray, W., and Abbott, T. (2005) Classification of Disease States Using Mass Spectrometry Data.
6. Breaker, R. and Penchovsky R.; Computational Design of Nucleic Acid Switches. Provisional Application for Patent. Docket number: 4323. October 19, 2006. (see publication for details).
7. Rabinovich, P.M., Weissman, S.M., Komarovskaya, M.E., Bahceci, E. (2008) Transient transfection with RNA. Patent Application. US Patent Application. Yu 4277 PCT/US08/59952. Filed as US and International Patent Application.

Publications – Including Those In Press

1. Greenbaum, D., Colangelo, C., Williams, K., and Gerstein, M. (2003) Comparing protein abundance and mRNA expression levels on a genomic scale. *Genome Biology* 4, 117.1-117.8.
2. Wu, B., Abbott, T., Fishman, D., McMurray, W., Mor, G., Stone, K., Ward, D., Williams, K., and Zhao, H. (2003) Comparison of statistical methods for classification of ovarian cancer using a proteomics dataset. *Bioinformatics* 19, 1636-1643.
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6. Shi, Y., Xiang, R., Crawford, J., Colangelo, C., Horvath, C., and Wilkins, J., (2004) A simple solid phase mass tagging approach for quantitative proteomics. *Journal of Proteome Research* 3, 104-111.

7. Zhang, H., Zhang, R., Luo, Y., D'Alessio, A., Pober, J.S., Min, W. (2004) AIP1/DAB2IP, a novel member of the Ras-GAP family, transduces TRAF2-induced ASK1-JNK activation. *J. Biol. Chem.* 279, 44955-44965.
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10. Breaker, R. (2005) Harnessing RNA Switches. *Gene Ther.* 12:725-726.
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16. Mahajan, M.C., Narlikar, G.J., Boyapaty, G., Kingston, R.E., Weissman, S.M. (2005) Heterogeneous ribonucleoprotein C1/C2, MeCP1, and SWI/SNF form a chromatin remodeling complex at the β -globin locus control region. *Proc. Natl. Acad. Sci.* 102, 15012-15017.
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18. Shi, Y., Xiang, R., Horvath, C., and Wilkins, J., (2005) Design and Synthesis of A Solid Phase Fluorescent Mass Tag, *Journal of Separation Science* 28, 1812-1817.
19. Shi, Y., Xiang, R., Horváth, C., and Wilkins, J.A. (2005) Quantitative analysis of membrane proteins from breast cancer cell lines BT474 and MCF7 using multistep solid phase mass tagging and 2D LC/MS, *J. Proteome Res.* 4, 1427-1433.
20. Shi, Y., Hill, J., Xiang, R., Horvath, C. and Wilkins, J.A. (2005) Multistep Mass Tagging Coupled with 2D LC/MS – An Approach to Increase the Number of Identified Proteins *Journal Of Biomolecular Techniques*, Vol. 16, pp 190-196.
21. Ye, Z-j., Kluger, Y., Lian, Z., and Weissman, S. (2005) Two types of precursor cells in a multipotential hematopoietic cell line. *PNAS.* 102, 18461-18466.

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23. Zivarts, M., Liu, Y., and Breaker, R. (2005) Engineered Allosteric Ribozymes that Respond to Specific Divalent Metal Ions. *Nucleic Acids Res.* 33, 622-631. (NIH support is acknowledged but the Yale/NHLBI Proteomics Center contract is not specifically mentioned.)
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Submitted Manuscripts and Manuscripts Under Revision

76. Alessio D'Alessio, Martin S. Kluger, Jie Hui Li, Rafia Al-Lamki, John R. Bradley and Jordan S. Pober. (2009) Targeting of Tumor Necrosis Factor Receptor 1 to Low Density Plasma Membrane Domains in Human Endothelial Cells *Journal of Biological Chemistry*, submitted.

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80. Rabinovich, P.M., Komarovskaya M.E., Wrzesinski, S.H. , Alderman J.L., Budak-Aldogan T., Karpikov, A., Guo, H., Flavell, R.A., Cheung, N-K, Weissman, S.M., Bahceci, E. (2008) Chimeric Receptor mRNA Transfection as a Tool to Generate Antineoplastic Lymphocytes (submitted to *Human Gene Therapy*).
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84. Di Lorenzo, A., Fernández-Hernando, C. ,Cirino, G. and Sessa, W.C. (2009) Akt1 is critical for acute inflammation and histamine mediate vascular leakage. Submitted.

Manuscripts in Preparation

85. Ames, T., Weinberg, Z., Breaker, R. R. (2008) Eubacterial riboswitches that sense the coenzyme tetrahydrofolate. (in preparation).
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98. Smith, B.A., Daniels, D.S., Coplin, A.E., Jordan, G.E., McGregor, L.M. and Schepartz, A. (2008) Minimally cationic, cell-permeable miniature proteins by α -helical arginine display. (in preparation).
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100. Dávalos, A., Fernández-Hernando, C. Sowa, G., Suárez, Y., Derakhshan, B., Lin, M.I., Lee, J.Y., Colangelo, C. and William C. Sessa (2009) Quantitative proteomics of caveolin-1 regulated proteins within caveolar membranes. Evidence of PTRF/Cavin in the regulation of endothelial cell functions. in preparation.
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Published and Submitted Abstracts

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