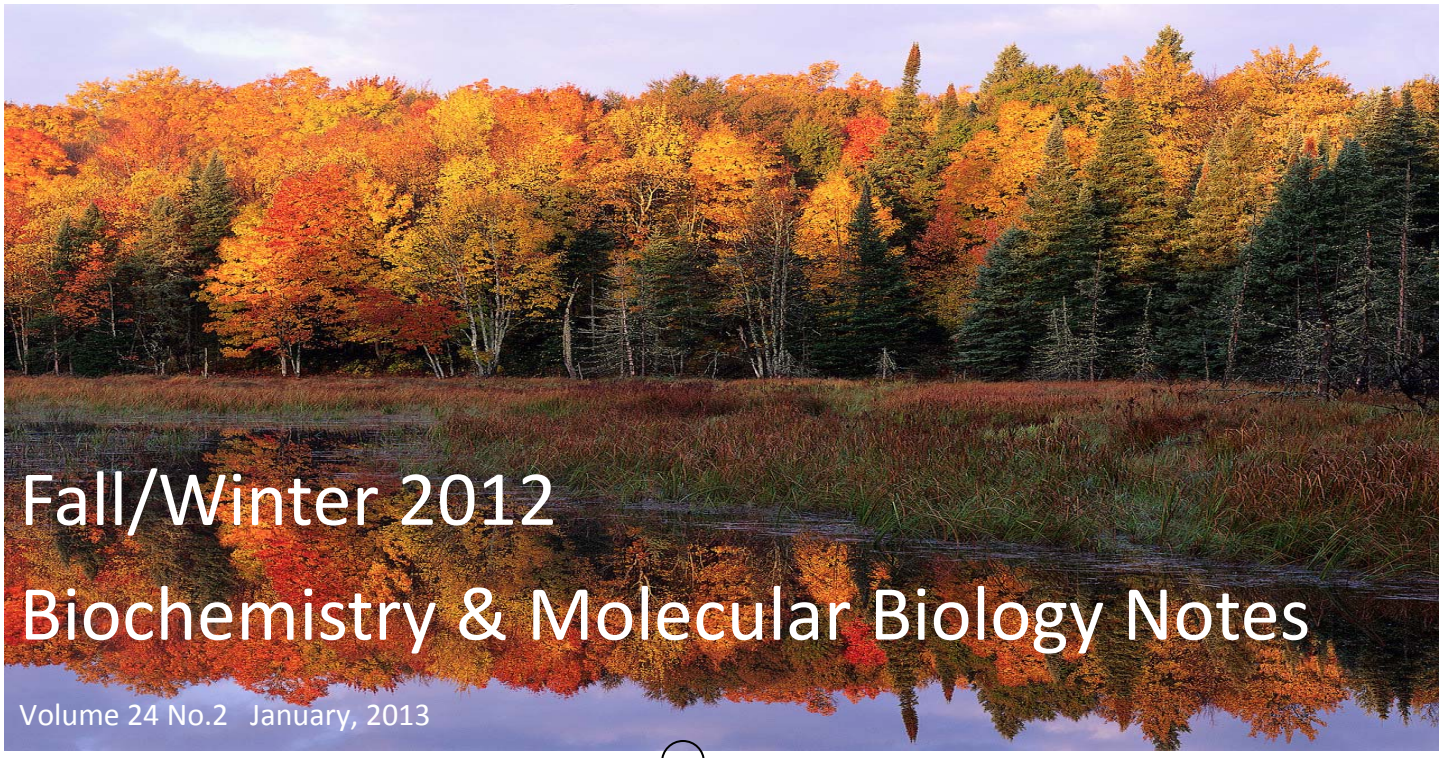


Fall/Winter 2012
Biochemistry & Molecular Biology Notes

Volume 24 No.2 January, 2013

Faculty Achievements & Special Recognitions

New Grant Funding

Amber Mosley, Ph.D.

NIH– R01

"Regulation of RNA Polymerase II Transcription by the Phosphatase Rtr1 Determine how removal of S5-P from the RNAPII CTD by the phosphatase Rtr1 coordinates transcription termination and the restoration of chromatin structure following transcription"

Zhong-Yin Zhang, Ph.D.

NIH/NCI - R01

"Structure/Function of Protein Tyrosine Phosphatases"

Invited Talks

X. Charlie Dong, Ph.D.

- The Ohio State University, Department of Pathology. Columbus, OH. September, 2012. "FOXO transcription factors in cellular metabolism and stress resistance"
- The National Institute of Biological Sciences, Beijing, China. July, 2012. "FOXO transcription factors in circadian rhythm and metabolism"

Quyen Hoang, Ph.D.

- Kansas University Medical Center, Kansas city, Kansas. November 2012 Bohan Visiting Lectureship "Novel mechanisms of Parkinson's disease." Nov. 02 2012

Invited Talks Continued...

- International Conference on Alpha-synuclein in Parkinson's Disease and Related Neurodegenerative Diseases. Dubai, UAE. “Structures and unstructured forms of alpha-synuclein” March, 2013

Yuichiro Takagi, Ph.D.

- Harvard Medical School, Boston, MA July, 2012
- University of Regensburg, Regensburg, Germany August, 2012
- European Molecular Biology Laboratory (EMBL) Heidelberg, Heidelberg, Germany August, 2012
- Purdue University, West Lafayette, IN. September 2012
- Sun Yat-Sen University, Guangzhou, China. November, 2012

Qizhuang Ye, Ph.D.

- 2012 "Metals in Medicine" Gordon Research Conference, Proctor Academy, June, 2012.
- The Metals in Medicine symposium at The 245th American Chemical Society National Meeting, New Orleans. April, 2013.

Zhong-Yin Zhang, Ph.D.

- Institute for Applied Cancer Science, University of Texas - MD Anderson Cancer Center, Houston, TX
- McArdle Laboratory for Cancer Research/ Department of Oncology, School of Medicine and Public Health, University of Wisconsin, Madison, WI.

PUBLICATIONS

Basavarajappa, H., Corson, T.; KIF14 as an oncogene in retinoblastoma: a target for novel therapeutics. Future Med Chem (2012) 4 (17), 2149-2152

Chen, X.F., Lehmann, L., Lin, J.J., Vashisht, A., Schmidt, R., Ferrari, R., Huang, C., McKee, R., **Mosley, A**., Plath, K., Kurdistani, S.K., Wohlschlegel, J., Carey, M. Mediator and SAGA Have Distinct Roles in Pol II Preinitiation Complex Assembly and Function. Cell Rep. 2012 Nov 29;2(5):1061-7. doi: 10.1016/j.celrep.2012.10.019. Epub 2012 Nov 21

Dong XC. Sirtuin biology and relevance to diabetes treatment. Diabetes Manag. 2012; 2(3):243-257.

Dong, Y., Zhang, L., Zhang, S., Bai, Y., Chen, H., Sun, X., Yong, W., Li, W., Colvin, S. C., Rhodes, S. J., Shou, W., and Zhang, Z.-Y. “Phosphatase of regenerating liver 2 (PRL2) is essential for placenta development by downregulating PTEN (phosphatase and tensin homologue deleted on chromosome 10) and activating Akt protein”, J. Biol. Chem 287, 32172-32179 (2012). PMC3442547. This paper was selected as a Journal of Biological Chemistry "Paper of the Week."

Kalwat, M.A., Wang, Z., Yoder, S.T. and Thurmond, D.C. A p21-activated kinase (PAK1) signaling cascade coordinately regulates F-actin remodeling and insulin granule exocytosis in pancreatic β cells. Biochem Pharmacol (in press). http://dx.doi.org/10.1016/j.bcp.2012.12.003

Li M, Chen X, **Ye QZ**, Vogt A, Yin XM* (2012) A high-throughput FRET-based assay for determination of Atg4 activety, Autophagy, 8, 401-12.

Lu JP, Yuan XH, **Ye QZ** (2012) Structural analysis of inhibition of *Mycobacterium tuberculosis* methionine aminopeptidase by bengamide derivatives, Eur J Med Chem, 47, 479-84.

PUBLICATIONS CONTINUED...

Mali, R. S., Ma, P., Zeng, L.-F., Martin, H., Ramdas, B., He, Y., Sims, E., Nabinger, S., Ghosh, J., Sharma, N., Munugalavadla, V., Chatterjee, A., Li, S., Sandusky, G., Craig, A. W., Bunting, K. D., Feng, G.-S., Chan, R. J., **Zhang, Z.-Y**. and Kapur, R. "Role of SHP2 phosphatase in KIT induced transformation: identification of SHP2 as a druggable target in diseases involving oncogenic KIT" Blood 120, 2669-2678 (2012).

Nguyen, Hoa, Babcock, J., Wells, C., and **Quilliam, L.** LKB1 tumor suppressor regulates AMP kinase/mTOR-independent cell growth and proliferation via the phosphorylation of Yap. *Oncogene* (Epub ahead of print, Oct 1).

Ramalingam, L., Oh, E. and Thurmond, D.C. (2012). Multiple roles of Insulin Receptor (IR) in adipocytes and skeletal muscle cells. Cellular and Molecular Life Sciences (in press)

Ramalingam, L., Oh, E., Yoder. S.T., Brozinick, J.T., **Kalwat, M.A.,** Groffen, A.J., Verhage, M. and Thurmond, D.C. (2012). Doc2b is a Key Effector of Insulin Secretion and Skeletal Muscle Insulin Sensitivity. Diabetes 61 (10):2424-32

Staser K, Shew MA, Michels EG, Mwanthi MM, Yang FC, Clapp DW, Park SJ. A Pak1-PP2A-ERM signaling axis mediates F-actin rearrangement and degranulation in mast cells. Exp. Hematol. 2012 Oct. 11. PMID: 23063725

Staser K, Park S, Rhodes S, Zeng Y, He YZ, Shew M, Gehlhausen J, Cerabona D, Chen S, Sun Z, Nalepa G, Yang FC, Clapp DW. Normal hematopoiesis and neurofibromin-deficient myeloproliferative disease require Erk. JCI – Accepted, PubMed In Process

Trowitzsch, T., Palmberger, D., Fitzgerald, D., **Takagi, Y**., and Berger, I. (2012). MultiBac Complexomics. Expert Rev. Proteomics 9, 363-373

Wang W, Perovic I, Chittuluru J, Johnson D, Landeru A, Simorellis AK, Ju S, Kagnanovich A, Cookson M, Asturias FJ, Ringe D, Gregory A. Petsko GA, Pochapsky TC, and **Hoang QQ**. A Soluble alpha-synuclein Construct Forms a Dynamic Tetramer. Proc Natl Acad Sci U S A. 108(43): 17797-802 (2011)

Xiong X, Tao R, DePinho RA, Dong XC. The autophagy-related gene 14 (Atg14) is regulated by forkhead box O transcription factors and circadian rhythms and plays a critical role in hepatic autophagy and lipid metabolism. J Biol Chem. 2012; 287 (46):39107-14.

Xu W, Lu JP, **Ye QZ*** (2012) Structural analysis of bengamide derivatives as inhibitors of methionine aminopeptidases, J Med Chem, 55, 8021-7.

Zhang Q, Ding D, Zeng SX, **Ye QZ**,* Lu H* (2012) Structure and activity analysis of Inauhzin analogs as novel antitumor compounds that induce p53 and inhibit cell growth, PLoS One, 7(10), e46294.

Zhang Q, Zeng SX, Zhang Y, Zhang Y, Ding D, **Ye QZ**, Meroueh SO, Lu H* (2012) A small molecule Inauhzin inhibits SIRT1 activity and suppresses tumour growth through activation of p53, EMBO Mol Med, 4, 298-312.

Zhang, S., Liu, S., Tao, R., Wei, D., Chen, L., Shen, W., Yu, Z.-H., Wang, L., Jones, D. R., Dong, X. C. and Zhang, Z.-Y. "A highly selective and potent PTP-MEG2 inhibitor with therapeutic potential for type 2 diabetes" J. Am. Chem. Soc. 134, 18116-18124 (2012). PMC3505080

Wedding Bells

Heather (Sahm) Leyes & Andrew Leyes
September 15th, 2012

Brigitte Heller & Joe Chen
September 22, 2012

Birth Announcements

Brian Teske & his wife, Melissa celebrated the arrival of their new baby boy, Dane Maxwell Teske on October 2nd, 2012. He weighed 9lbs & 1 oz and was 21.25 inches.

New Faces in Biochem

Jong Won Kim
Visiting Assistant
Research Professor
Proteomics Core Lab

Kelly Gallagher
MD/PhD student
(Korc Lab)

Kudos

Jacob Adler is a member of the Urban Educators GK-12 Program at IUPUI. This program places research students from IU School of Medicine and IUPUI into local high school, middle and grade school classrooms throughout the city. Jacob has led a year-long course and recently held an advanced workshop on breast cancer research at Warren Central High School.

Gerald Hunter received an ASMS student stipend to attend the 2012 SMA Fall Workshop "Mass Spectrometry-based Protein Phosphorylation Analysis and Phosphoproteomics" on November 8-9, 2012 in Boston, MA.

Recent Grads

Justin Babcock , Ph.D.

"mTORC1 Contributes to ER Stress Induced Cell Death"

Defended: October 25, 2012.

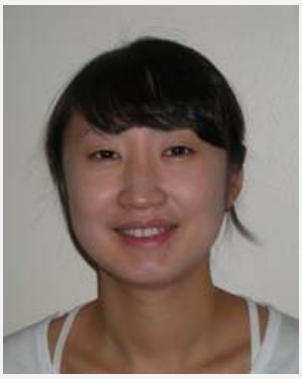
Justin completed his graduate studies in the lab of Lawrence Quilliam Ph.D.

Hoa Bich Nguyen, Ph.D.

"The tumor suppressing roles of tissue structure in cervical cancer development"

Defended: November 8, 2012

Hoa completed her graduate studies in the lab of Lawrence Quilliam, Ph.D.



Soyoung Park, Ph.D.

"In vivo analysis of human LHX3 enhancer regulation"

Defended: January 29, 2013

Soyoung completed her graduate studies in the lab of Simon Rhodes, Ph.D.

Brian Teske, Ph.D.

"The Integrated Stress Response Directs Cell Fate Decisions In Response To Perturbations In Protein Homeostasis"

Defended: January 8, 2013

Brian completed his graduate studies in the lab of Ron Wek, Ph.D.

Chad Walls, Ph.D.

"Functional insights into oncogenic protein tyrosine phosphatases by mass spectrometry"

Defended: November 9, 2012

Chad completed his graduate studies in the lab of Zhong-Yin Zhang, Ph.D.

Departme

2012 Biochemistry Annual Family Picnic

The intermittent rainfall didn't stop this year's faculty hosts, Drs. Yuichiro Takagi and Suk-Hee Lee from grilling- up some delicious brats, hot dogs and burgers for our annual picnic.

A special "thank you" to all those who contributed to the organization of this event and to the wonderful dishes you contributed to the pitch-in! The overabundance of our feast was shared with The Wheeler Mission. They were greatly appreciative.

And of course, we all enjoyed another annual Faculty vs. Student Softball game...

A valiant effort was put forth by both teams, but the victory (and the newly repaired trophy which is no longer utilizing a pretzel as a bat) went to the Students with a score of 21 - ?.

ent Events

2012 BIOCHEMISTRY HOLIDAY PARTY!

Amazing food and fun games always make for a great party. This year was no exception. With a selection of entrees and sides from Fazoli's, Indian Garden and Journey as well as the generous pitch-in contributions of fellow faculty, staff and students, not a bit was left. Some even made it through the line for thirds!

And as always, the Door Prize Drawings and Stealing Bingo were a big hit. Thank you to everyone who helped make this year's party another successful one.