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**EXPERIENCE**

*Temple University Center for Translational Medicine*

3500 N. Broad Street, Philadelphia, PA 19140-5104

Post-Doctoral Fellow / Theoretical Biology

08/01/2014 –Present

*Sandhills Capital Management, LLC*

Omaha, NE; Ardmore, PA; Wilmington, DE

Chief Investment Officer

Fixed Income Long / Short Hedge Fund

11/2012 – 10/2014

*Temple University Department of Biochemistry*

3500 N. Broad Street, Philadelphia, PA 19140-5104

Ph.D. / Mitochondrial Ion Transport / Reactive Oxygen Species

09/2010 – 07/31/2014

*Investment Banking Consultant*

Philadelphia, PA

Fixed Income Modeling / Scientific Rigor in Analyses

09/2007 – 11/2012

**EDUCATION**

Temple University School of Medicine

Philadelphia, PA US

Ph.D. Biochemistry

Bioenergetics/Microscopy

**Biochemistry Department Rank: #1**

University of Nebraska at Omaha

Omaha, NE US

Bachelor's Degree

Major: Biology

**Valedictorian Rank: #1**

**SELECTED PEER-REVIEWED PUBLICATIONS**

**1. Nicholas E. Hoffman**, Barbara A. Miller, JuFang Wang, John W. Elrod, Sudasan Rajan, Erhe Gao, Jianliang Song, Xue-Qian Zhang, Santhanam Shanmughapriya, Walter J. Koch, Arthur M. Feldman, Muniswamy Madesh, and Joseph Y. Cheung. Loss of Trpm2 exacerbates cardiac ischemia-reperfusion dysfunction via mitochondrial stress. *Am J Physiol.* (2015 Jan 9)

**2. Chu J, Li JG, Hoffman NE**, Madesh M, Praticò D. Degradation of gamma secretase activating protein by the ubiquitin-proteasome pathway. *J Neurochem.* 2014 Dec 23. doi: 10.1111/jnc.13011.

3. Chen SJ, **Hoffman NE\*\***, Shanmughapriya S, Bao L, Keefer K, Conrad K, Merali S2, Takahashi Y, Abraham T, Hirschler-Laszkiewicz I, Wang J, Zhang XQ, Song J2, Barrero C, Shi Y, Kawasawa YI, Bayerl M, Sun T, Barbour M, Wang HG, Madesh M, Cheung JY, Miller BA. A Splice Variant of the Human Ion Channel TRPM2 Modulates Neuroblastoma Tumor Growth Through HIF-1/2 $\alpha$ . J Biol Chem. 2014 Nov 12. (\*\*Co-First Author)
4. Shanmughapriya, S., Rajan, S., **Hoffman, N.E.**, Zhang, X., Guo, S., Kolesar, J.E., Hines, K.J., Ragheb, J., Kaufman, B., Baba, Y., Zhou, Y., Cheung, J.Y., Kurosaki, T., Gill, D.L., Madesh, M. Ca<sup>2+</sup> signals generated by Inositol Trisphosphate Receptors and Orai channels control function and CREB-mediated expression of the mitochondrial Ca<sup>2+</sup> uniporter. Science Signaling (In Press).
5. J. Chu, J.G. Li, Y.B. Joshi, P.F. Giannopoulos, **Hoffman, N.E.**, Madesh, M., Pratico, D. Gamma Secretase Activating Protein is a target for caspase-3: implications for Alzheimer's disease. Biol Psychiatry. 2014 Jun 16.
6. Makarewich CA, Zhang H, Davis J, Correll RN, Trappanese DM, **Hoffman NE**, Troupes CD, Berretta RM, Kubo H, Madesh M, Chen X, Gao E, Molkentin JD, Houser SR. Transient receptor potential channels contribute to pathological structural and functional remodeling after myocardial infarction. Circ Res. 2014 Aug 29;115(6):567-80.
7. Ren Gong, Xiao Huang, Xinyuan Li, Ya-Feng Li, Jun Nelson, Ying Yin, Erhe Gao, Hongyu Zhang, Steven Houser, **Hoffman, N.E.**, Madesh Muniswamy, Eric T. Choi, Xiaohua Jiang, Hong Wang, and Xiao-Feng Yang. Caspase-1 Promotes Oxidized LDL-induced Pyroptosis of Endothelial Progenitor Cells (EPC) and Impairs EPC's Angiogenesis Capacity after Myocardial Infarction. J Biol Chem. (Under Review)
8. Brailoiu GC, Deliu E, Marcu J, **Hoffman NE**, Console-Bram L, Zhao P, Madesh M, Abood ME, Brailoiu E. Biochemistry. Differential activation of intracellular versus plasmalemmal CB2 cannabinoid receptors. 2014 Aug 5;53(30):4990-9.
9. Doonan PJ, Chandramoorthy HC, **Hoffman NE**, Zhang X, Cárdenas C, Shanmughapriya S, Rajan S, Vallem S, Chen X, Foscett JK, Cheung JY, Houser SR, Madesh M. LETM1-dependent mitochondrial Ca<sup>2+</sup> flux modulates cellular bioenergetics and proliferation. FASEB J. 2014 Nov;28(11):4936-49.
10. Miller BA, **Hoffman NE**, Merali S, Zhang XQ, Wang J, Rajan S, Shanmughapriya S, Gao E, Barrero CA, Mallilankaraman K, Song J, Gu T, Hirschler-Laszkiewicz I, Koch WJ, Feldman AM, Madesh M, Cheung JY. TRPM2 Channels Protect Against Cardiac Ischemia-Reperfusion Injury: Role of Mitochondria. J Biol Chem. 2014 Feb 3.
11. Deliu E, Brailoiu GC, Eguchi S, **Hoffman NE**, Rabinowitz JE, Tilley DG, Madesh M, Koch WJ, Brailoiu E. DIRECT EVIDENCE OF INTRACRINE ANGIOTENSIN II SIGNALING IN NEURONS. Am J Physiol Cell Physiol. 2014 Jan 8.
12. Sharma VD, Lees J, **Hoffman NE**, Brailoiu E, Madesh M, Wunder SL, Ilies MA. Modulation of Pyridinium Cationic Lipid-DNA Complex Properties by Pyridinium Gemini Surfactants and Its Impact on Lipoplex Transfection Properties. Mol Pharm. 2014 Jan 6.
13. **Hoffman NE**, Chandramoorthy HC, Shanmughapriya S, Zhang XQ, Vallem S, Doonan PJ, Mallilankaraman K, Guo S, Rajan S, Elrod JW, Koch WJ, Cheung JY, Madesh M. SLC25A23 augments mitochondrial Ca<sup>2+</sup> uptake, interacts with MCU, and induces oxidative stress-mediated cell death. Mol Biol Cell. 2014 Jan 15.
14. **Hoffman, N.E.**, Chandramoorthy H. C., Shamugapriya S., Zhang X.Q., Mallilankaraman K., Gandhirajan, R.K., Vagnozzi, R.J., Ferrer, L.M., Sreekrishnanilayam, K., Natarajaseenivasan, K., Vallem S., Doonan, P.J., Cheung, J. Y., Madesh, M. MICU1 Motifs Define Mitochondrial Calcium Uniporter Binding and Activity. Cell Reports 2013 Dec 26;5(6):1576-88.
15. Huang ZM, Gao E, Fonseca FV, Hayashi H, Shang X, **Hoffman NE**, Chuprun JK, Tian X, Tilley DG, Madesh M, Lefer DJ, Stamler JS, Koch WJ. Convergence of G protein-coupled receptor and S-nitrosylation signaling determines the outcome to cardiac ischemic injury. Sci Signal. 2013 Oct 29;6(299):ra95. doi: 10.1126/scisignal.2004225.

- 16.** Vagnozzi RJ, Gatto GJ Jr, Kallander LS, **Hoffman NE**, Mallilankaraman K, Ballard VL, Lawhorn BG, Stoy P, Philp J, Graves AP, Naito Y, Lepore JJ, Gao E, Madesh M, Force T. Inhibition of the cardiomyocyte-specific kinase TNNI3K limits oxidative stress, injury, and adverse remodeling in the ischemic heart. *Sci Transl Med*. 2013 Oct 16;5(207):207ra141. doi: 10.1126/scitranslmed.3006479.
- 17.** Duran, J.M., Makarewich, C.A., Sharp, T.E., Starosta, T., Zhu, F., **Hoffman, N.E.**, Chiba, Y., Madesh, M., Berretta, R.M., Kubo, H., and Houser, S.R. (2013). Bone-derived stem cells repair the heart after myocardial infarction through transdifferentiation and paracrine signaling mechanisms. *Circ Res* 113, 539-552.
- 18.** Yu J, Deliu E, Zhang XQ, **Hoffman NE**, Carter RL, Grisanti LA, Brailoiu GC, Madesh M, Cheung JY, Force T, Abood ME, Koch WJ, Tilley DG, Brailoiu E. Differential activation of cultured neonatal cardiomyocytes by plasmalemmal versus intracellular G protein-coupled receptor 55. *J Biol Chem*. 2013 Aug 2;288(31):22481-92. doi: 10.1074/jbc.M113.456178. Epub 2013 Jun 27.
- 19.** Kato, K., Lillehoj, E.P., Park, Y.S., Umehara, T., **Hoffman, N.E.**, Madesh, M., and Kim, K.C. (2012). Membrane-tethered MUC1 mucin is phosphorylated by epidermal growth factor receptor in airway epithelial cells and associates with TLR5 to inhibit recruitment of MyD88. *J Immunol* 188, 2014-2022.
- 20.** Mallilankaraman, K., Doonan, P., Cardenas, C., Chandramoorthy, H.C., Muller, M., Miller, R., **Hoffman, N.E.**, Gandhirajan, R.K., Molgo, J., Birnbaum, M.J., Rothberg, B.S., Mak, D.O., Foscett, J.K., and Madesh, M. (2012). MICU1 is an essential gatekeeper for MCU-mediated mitochondrial Ca<sup>2+</sup> uptake that regulates cell survival. *Cell* 151, 630-644.
- 21.** Vagnozzi RJ, **Hoffman NE**, Elrod JW, Madesh M, Force T. (2012). Protein Kinase Signaling at the Crossroads of Myocyte Life and Death in Ischemic Heart Disease. *Drug Discov Today Ther Strateg*. 9(4):e173-e182.
- 22.** Stack, D.E., Li, G., Hill, A., and **Hoffman, N.** (2008). Mechanistic insights into the Michael addition of deoxyguanosine to catechol estrogen-3,4-quinones. *Chemical Research in Toxicology* 21, 1415-1425.