

# Ching-On Wong, Ph.D.

Postdoctoral Fellow, Department of Integrative Biology and Pharmacology  
University of Texas Health Sciences Center, Houston, TX

## Education

Ph.D. in Physiology (2005-2009)  
Chinese University of Hong Kong, Hong Kong

B.S. in Biochemistry (2002-2005)  
Chinese University of Hong Kong, Hong Kong

## Research Position

- Postdoctoral Fellow (2010-Present)  
Laboratory of Dr. Kartik Venkatachalam ([Link to website](#))  
Department of Integrative Biology and Pharmacology,  
University of Texas Health Sciences Center, Houston, TX
- Postdoctoral Fellow (2009-2010)  
Laboratory of Dr. Xiaoqiang Yao ([Link to website](#))  
Department of Physiology, Faculty of Medicine  
Chinese University of Hong Kong, Hong Kong
- Doctoral Student (2005-2009)  
Laboratory of Dr. Xiaoqiang Yao ([Link to website](#))  
Department of Physiology, Faculty of Medicine  
Chinese University of Hong Kong, Hong Kong

## Award

- 1<sup>st</sup> Place, Annual Postdoctoral Oral Competition 2011 ([Link to webpage](#))  
Postdoctoral Association, University of Texas Health Science Center at Houston
- Postdoctoral Travel Award 2014  
Postdoctoral Association, University of Texas Health Science Center at Houston
- 2<sup>nd</sup> Place, Dean's Excellence in Research Award Competition 2015  
University of Texas Health Science Center at Houston

## Academic Publication

### Research Paper in Preparation

**Wong CO**, Palmieri M, Akhmedov D, Li J, Chao Y, Broadhead GT, Zhu MX, Collins C, Berdeaux R, Sardiello M, Venkatachalam K. Diminished MTORC1-Dependent JNK-Activation Underlies the Neurodevelopmental Defects Associated with Lysosomal Dysfunction.

### Published Research Paper

1. Zhou Y, **Wong CO**, Cho KJ, van der Hoeven D, Liang H, Thakur DP, Luo J, Babic M, Zinsmaier KE, Zhu, MX, Hu H, Venkatachalam K, Hancock JF. (2015) Membrane potential modulates plasma membrane phospholipid dynamics and K-Ras signaling. *Science*. (in press)
2. Shen B, **Wong CO\***, Lau OC, Woo T, Bai S, Huang Y, Yao X. (2015) Plasma Membrane Mechanical Stress Activates TRPC5 Channels. *PLOS ONE*. 10(4): e0122227.  
\* co-first-author, co-corresponding author
3. **Wong CO**, Chen K, Lin YQ, Chao Y, Duraine L, Lu Z, Yoon WH, Sullivan JM, Broadhead GT, Sumner CJ, Lloyd TE, Macleod GT, Bellen HJ, Venkatachalam K. (2014) A TRPV Channel in *Drosophila* Motor Neurons Regulates Presynaptic Resting Ca<sup>2+</sup> Levels, Synapse Growth, and Synaptic Transmission. *Neuron*. 84(4): 764-777. (cover article)

Comment in: Imler E and Zinsmaier KE (2014) TRPV1 Channels: Not So *Inactive* on the ER. *Neuron* 84, 659-661

4. Feng X, Huang Y, Lu Y, Xiong J, **Wong CO**, Yang P, Xia J, Chen D, Du G, Venkatachalam K, Xia X, Zhu MX. (2014) *Drosophila* TRPML forms PI(3,5)P<sub>2</sub>-activated cation channels in both endolysosomes and plasma membrane. *J Biol Chem*. 289(7):4262-72.
5. Venkatachalam K, **Wong CO**, Montell C. (2013) Feast or famine: role of TRPML in preventing cellular amino acid starvation. *Autophagy*. 9(1):98-100. (cover article)
6. **Wong CO**, Li R, Montell C, Venkatachalam K. (2012) *Drosophila* TRPML is required for TORC1 activation. *Curr Biol*. 22(17):1616-21.
7. Chan KH, Li T, **Wong CO**, Wong KB. (2012) Structural basis for GTP-dependent dimerization of hydrogenase maturation factor HypB. *PLoS One*. 7(1):e30547.
8. Ma X, Cheng KT, **Wong CO**, O'Neil RG, Birnbaumer L, Ambudkar IS, Yao X. (2011) Heteromeric TRPV4-C1 channels contribute to store-operated Ca<sup>2+</sup> entry in vascular endothelial cells. *Cell Calcium*. 50(6):502-9.
9. Shen B, Kwan HY, Ma X, **Wong CO**, Du J, Huang Y, Yao X. (2011) cAMP activates TRPC6 channels via the phosphatidylinositol 3-kinase (PI3K)-protein kinase B (PKB)-mitogen-activated protein kinase kinase (MEK)-ERK1/2 signaling pathway. *J Biol Chem*. 286(22):19439-45.
10. **Wong CO\***, Sukumar P\*, Beech DJ, Yao X. (2010) Nitric oxide lacks direct effect on TRPC5 channels but suppresses endogenous TRPC5-containing channels in endothelial cells. *Pflugers Arch*. 460(1):121-30. (\* co-author)
11. **Wong CO**, Huang Y, Yao X. (2010) Genistein potentiates activity of the cation channel TRPC5 independently of tyrosine kinases. *Br J Pharmacol*. 159(7):1486-96.
12. Ma X, Qiu S, Luo J, Ma Y, Ngai CY, Shen B, **Wong CO**, Huang Y, Yao X. (2010) Functional role of vanilloid transient receptor potential 4-canonical transient receptor potential 1 complex in flow-induced Ca<sup>2+</sup> influx. *Arterioscler Thromb Vasc Biol*. 30(4):851-8.
13. Chan CM, Tsoi H, Chan WM, Zhai S, **Wong CO**, Yao X, Chan WY, Tsui SK, Chan HY. (2009) The ion channel activity of the SARS-coronavirus 3a protein is linked to its pro-apoptotic function. *Int J Biochem Cell Biol*. 41(11):2232-9.
14. Kwan HY, **Wong CO**, Chen ZY, Dominic Chan TW, Huang Y, Yao X. (2009) Stimulation of histamine H<sub>2</sub> receptors activates TRPC3 channels through both phospholipase C and phospholipase D. *Eur J Pharmacol*. 602(2-3):181-7.
15. Shen B, Cheng KT, Leung YK, Kwok YC, Kwan HY, **Wong CO**, Chen ZY, Huang Y, Yao X. (2008) Epinephrine-induced Ca<sup>2+</sup> influx in vascular endothelial cells is mediated by CNGA2 channels. *J Mol Cell Cardiol*. 45(3):437-45.
16. Cheng KT, Leung YK, Shen B, Kwok YC, **Wong CO**, Kwan HY, Man YB, Ma X, Huang Y, Yao X. (2008) CNGA2 channels mediate adenosine-induced Ca<sup>2+</sup> influx in vascular endothelial cells. *Arterioscler Thromb Vasc Biol*. 28(5):913-8.

#### Review Article and Book Chapter

1. Venkatachalam K, **Wong CO**, Zhu MX. (2014) The Role of TRPMLs in Endolysosomal Trafficking and Function. *Cell Calcium*. in press

2. Venkatachalam K, **Wong CO**, Montell C. (2013) Feast or famine: role of TRPML in preventing cellular amino acid starvation. *Autophagy*. 9(1):98-100.
3. **Wong CO\***, Yao X. (2011) TRP channels in vascular endothelial cells. *Adv Exp Med Biol*. 704:759-80. (\* Corresponding author)
4. **Wong CO\***, Yao X. (2008) Cyclic nucleotide-gated channels: a familiar channel family with a new function? *Future Cardiol*. 4(5):505-15. (\* Corresponding author)

#### **Invited Seminar/Talk**

1. XXXVII International Congress of Physiological Sciences (IUPS), Birmingham, UK (2013).  
Chair: Dr. Susan Brain and Dr. Scott Earley  
"Pressure-sensing by TRPC5-containing channels in aortic baroreceptor"
2. The Brown Foundation Institute of Molecular Medicine, UTHealth, TX (2011).  
Host: Dr. BaBie Teng  
"A TRiP to Drosophila Synaptic Development"
3. Hong Kong Young Investigator Symposium  
The 27th Annual Meeting of the Hong Kong Society of Neurosciences (2009)  
The Hong Kong University of Science and Technology, Hong Kong  
"Activation of Canonical Transient Receptor Potential Channel isoform 5 (TRPC5) by Genistein"
4. International Conference on Biomedicine (2008)  
China Medical University, Taichung, Taiwan  
"Activation of Canonical Transient Receptor Potential Channel isoform 5 (TRPC5) by Genistein"

#### **Poster Presentation**

1. Gordon Research Conference - Lysosomal Diseases, Galveston, TX (2015)  
"Sustained phagocytic clearance of bacteria requires lysosomal degradation-dependent gene transcription"
2. Gordon Research Seminar - Lysosomal Diseases, Galveston, TX (2015)  
"Sustained phagocytic clearance of bacteria requires lysosomal degradation-dependent gene transcription"
3. Gordon Research Conference - Cell Biology of the Neuron, NH (2014)  
"TRPV Channel in Drosophila Motor Neurons Regulates Presynaptic Resting Ca<sup>2+</sup> Levels, Synapse Growth, and Synaptic Transmission"
4. Neuroscience Research Center 18th Annual Poster Session, UTHealth, TX (2013).  
"Altered Coupling between Rag GTPases and JNK Underlie the Neurodevelopmental Defects Associated with Lysosomal Dysfunction"
5. XXXVII International Congress of Physiological Sciences (IUPS), Birmingham, UK (2013).  
"A TRPV Channel Controls Presynaptic Ca<sup>2+</sup> Concentration to Regulate Presynaptic Growth and Synaptic Vesicle Release Probability"
6. Neuroscience Research Center 18th Annual Poster Session, UTHealth, TX (2011).  
"A TRPV Channel is Required for Synaptic Growth and Function in Drosophila"

#### **Academic Service**

Peer Review Committee

- Postdoc Travel Award (Fall 2012), University of Texas Health Sciences Center at Houston

Undergraduates Mentored

- Meera Namireddy, Rice University, 2013-Present
- Malvika Govil, Rice University, 2015-Present