



Cystic Fibrosis Research, Inc.

Elizabeth Nash Memorial Fellowship Research Publications (2001 – 2010)

2010

- Chen EY, Yang N, Quinton PM, and Chin WC.** 2010. A new role for bicarbonate in mucus formation. *Am J Physiol Lung Cell Mol Physiol* 299: L542-549.
- Joo NS, Cho HJ, Khansaheb M, and Wine JJ.** 2010. Hyposecretion of fluid from tracheal submucosal glands of CFTR-deficient pigs. *J Clin Invest* 120: 3161-3166.
- Muchekehu RW, and Quinton PM.** 2010. A new role for bicarbonate secretion in cervico-uterine mucus release. *J Physiol* 588: 2329-2342.
- Chapman AL, Morrissey BM, Vasu VT, Juarez MM, Houghton JS, Li CS, Cross CE, and Eiserich JP.** 2010. Myeloperoxidase-dependent oxidative metabolism of nitric oxide in the cystic fibrosis airway. *J Cyst Fibros* 9: 84-92.
- Vasu VT, de Cruz SJ, Houghton JS, Hayakawa KA, Morrissey BM, Cross CE, and Eiserich JP.** 2010. Evaluation of thiol-based antioxidant therapeutics in cystic fibrosis sputum: Focus on myeloperoxidase. *Free Radic Res*
- Tsai HJ, Hwang SH, Morisseau C, Yang J, Jones PD, Kasagami T, Kim IH, and Hammock BD.** 2010. Pharmacokinetic screening of soluble epoxide hydrolase inhibitors in dogs. *Eur J Pharm Sci* 40: 222-238.
- Liu JY, Li N, Yang J, Li N, Qiu H, Ai D, Chiamvimonvat N, Zhu Y, and Hammock BD.** 2010. Metabolic profiling of murine plasma reveals an unexpected biomarker in rofecoxib-mediated cardiovascular events. *Proc Natl Acad Sci U S A* 107: 17017-17022.

2009

- Choi JY, Khansaheb M, Joo NS, Krouse ME, Robbins RC, Weill D, Wine JJ** Substance P stimulates human airway submucosal gland secretion mainly via a CFTR-dependent process. *J Clin Invest.* 2009 May;119(5):1189-200.
- Yang J, Schmelzer K, Georgi K, and Hammock BD.** 2009. Quantitative profiling method for oxylipin metabolome by liquid chromatography electrospray ionization tandem mass spectrometry. *Anal Chem* 81: 8085-8093.

2008

- Ianowski JP, Choi JY, Wine JJ, Hanrahan JW.** Substance P stimulates CFTR-dependent fluid secretion by mouse tracheal submucosal glands. *Pflugers Arch.* 2008 May 29.
- Christianson JC, Shaler TA, Tyler RE, Kopito RR.** OS-9 and GRP94 deliver mutant alpha1-antitrypsin to the Hrd1-SEL1L ubiquitin ligase complex for ERAD. *Nat Cell Biol.* 2008 Mar;10(3):272-82.
- Schwarzer C, Fischer H, Kim EJ, Barber KJ, Mills AD, Kurth MJ, Gruenert DC, Suh JH, Machen TE, Illek B.** Oxidative stress caused by pyocyanin impairs CFTR Cl(-) transport in human bronchial epithelial cells. *Free Radic Biol Med.* 2008 Dec 15;45(12):1653-6

2007

- Ianowski, J.P., J.Y. Choi, J.J. Wine, and J.W. Hanrahan.** 2007. Mucus secretion by single tracheal submucosal glands from normal and CFTR knock-out mice. *J Physiol.* 580.1: 301-314
- Gaggioli V, Schwarzer C, Fischer H.** 2007. Expression of Nox1 increases cellular acid production but not proton conductance. *Arch Biochem Biophys* 459, 189-196.
- Schwarzer C, Illek B, Suh JH, Remington SJ, Fischer H, Machen TE.** 2007. Organelle redox of CF and CFTR-corrected airway epithelia. *Free Radic Biol Med,* 5;43:300-16.
- Hybiske K, Fu Z, Schwarzer C, Tseng J, Do J, Huang N, Machen TE.** 2007. Effects of cystic fibrosis transmembrane conductance regulator and \square F508CFTR on inflammatory response, ER stress, and Ca²⁺ of airway epithelia. *Am J Physiol* 293:L1250-60.
- Choi JY, Joo NS, Krouse ME, Wu JV, Robbins RC, Ianowski JP, Hanrahan JW, Wine JJ.** 2007. Synergistic airway gland mucus secretion in response to vasoactive intestinal peptide and carbachol is lost in cystic fibrosis. *J Clin Invest.* 117:3118-27

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- DeLaBarre, B., J.C. Christianson, R.R. Kopito, and A.T. Brunger.** 2006. Central pore residues mediate the p97/VCP activity required for ERAD. *Mol Cell* 22:451-462.
- Xu, X., D. Zhang, H. Zhang, P.J. Wolters, N.P. Killeen, B.M. Sullivan, R.M. Locksley, C.A. Lowell, and G.H. Caughey.** 2006. Neutrophil histamine contributes to inflammation in mycoplasma pneumonia. *J Exp Med* 203:2907-2917.

2005

- Lee, H., M. Pespeni, J. Roux, P.A. Dennery, M.A. Matthay, and J.F. Pittet.** 2005. HO-1 induction restores c-AMP-dependent lung epithelial fluid transport following severe hemorrhage in rats. *Faseb J* 19:287-289.
- Pittet, J.F., H. Lee, M. Pespeni, A. O'Mahony, J. Roux, and W.J. Welch.** 2005. Stress-induced inhibition of the NF-kappaB signaling pathway results from the insolubilization of the IkappaB kinase complex following its dissociation from heat shock protein 90. *J Immunol* 174:384-394.
- Reddy, M.M., X.F. Wang, M. Gottschalk, K. Jones, and P.M. Quinton.** 2005. Normal CFTR Activity and Reversed Skin Potentials in Pseudohypoaldosteronism. *J Membr Biol* 203:151-159.

- Roux, J., H. Kawakatsu, B. Gartland, M. Pespeni, D. Sheppard, M.A. Matthay, C.M. Canessa, and J.F. Pittet.** 2005. Interleukin-1beta decreases expression of the epithelial sodium channel alpha-subunit in alveolar epithelial cells via a p38 MAPK-dependent signaling pathway. *J Biol Chem* 280:18579-18589.
- Salinas, D., P.M. Haggie, J.R. Thiagarajah, Y. Song, K. Rosbe, W.E. Finkbeiner, D.W. Nielson, and A.S. Verkman.** 2005. Submucosal gland dysfunction as a primary defect in cystic fibrosis. *Faseb J.* 19:431-433.
- Wang, X., C. Lytle, and P.M. Quinton.** 2005. Predominant constitutive CFTR conductance in small airways. *Respir Res* 6:7 (12 pages).

2004

- Chen, Y., Y.H. Zhao, T.B. Kalaslavadi, E. Hamati, K. Nehrke, A.D. Le, D.K. Ann, and R. Wu.** 2004. Genome-wide search and identification of a novel gel-forming mucin MUC19/Muc19 in glandular tissues. *Am J Respir Cell Mol Biol* 30:155-165.
- Fischer, H., C. Schwarzer, and B. Illek.** 2004. Vitamin C controls the cystic fibrosis transmembrane conductance regulator chloride channel. *Proc Natl Acad Sci U S A* 101:3691-3696.
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- Schwarzer, C., T.E. Machen, B. Illek, and H. Fischer.** 2004. NADPH Oxidase-dependent acid production in airway epithelial cells. *J. Biol. Chem.* 279:36454-36461.
- Tong, Z., B. Illek, V.J. Bhagwandin, G.M. Vergheese, and G.H. Caughey.** 2004. Prostasin, a membrane-anchored serine peptidase, regulates sodium currents in JME/CF15 cells, a cystic fibrosis airway epithelial cell line. *Am J Physiol Lung Cell Mol Physiol* 287:L928-935.
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- Frank, J., J. Roux, H. Kawakatsu, G. Su, A. Dagenais, Y. Berthiaume, M. Howard, C.M. Canessa, et al.** 2003. TGF-beta 1 decreases expression of the epithelial sodium channel alpha ENaC and alveolar epithelial vectorial sodium and fluid transport via an ERK 1/2-dependent mechanism. *J Biol Chem* 20:20.
- Howard, M., H. Fischer, J. Roux, B.C. Santos, S.R. Gullans, P.H. Yancey, and W.J. Welch.** 2003. Mammalian osmolytes and S-nitrosoglutathione promote Delta F508 cystic fibrosis transmembrane conductance regulator (CFTR) protein maturation and function. *J Biol Chem* 278:35159-35167.
- Swanson, B., R. Savel, F. Szoka, T. Sawa, and J. Wiener-Kronish.** 2003. Development of a high throughput *Pseudomonas aeruginosa* epithelial cell adhesion assay. *J Microbiol Methods* 52:361-366.

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Jacob, T., R.J. Lee, J.N. Engel, and T.E. Machen. 2002. Modulation of cytosolic Ca(2+) concentration in airway epithelial cells by *Pseudomonas aeruginosa*. *Infect Immun* 70:6399-6408.

2001

Chandy, G., M. Grabe, H.P. Moore, and T.E. Machen. 2001. Proton leak and CFTR in regulation of Golgi pH in respiratory epithelial cells. *Am J Physiol Cell Physiol* 281:C908-921.

Machen, T.E., G. Chandy, M. Wu, M. Grabe, and H.P. Moore. 2001. Cystic fibrosis transmembrane conductance regulator and H⁺ permeability in regulation of Golgi pH. *Jop* 2:229-236.



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