
Morten J. Buch-Pedersen

Ole Maaløes Vej 3
2200 Copenhagen
Denmark
Telephone: (+45) 4045 2330
E-mail: mbuchpedersen@gmail.com



Biotech business driver having key accomplishments within biotechnology start-up and strategic business development. Translation of complex multidisciplinary science into new drug discovery business, establishing business model, assessment of market opportunities, building business case and international VC fundraising. Leading scientific teams and collaborative programmes directly and through outsourced channels.

SELECTED ACHIEVEMENTS

- Offices Held: Assistant and Associate Professor, Chief Executive Officer.
- Inventor of technology for Biotech Company.
- CEO & founder of Biotechnology Company – Leading company from instigation through three rounds of international fundraising ~70M DKK, excluding secured soft-money funding.
- *Wellcome Trust Foundation* 2012 – Drug Discovery Award; *Ernst & Young* - Life Science finalist for “Entrepreneur of the Year, 2012”; *Carlsberg Foundation* post-doctoral grant, 2005-2007.
- Publication of company and university discoveries in *Nature* (both senior- and first-authorships). Publications in additional high-impact journals that includes *Nature Rev.*, *PNAS* and *JBC*.
- PhD in Biochemistry 2004; Executive Education, IESE Business School, Spain, 2013-2014; MBA, University of Warwick, United Kingdom, (2015/6 exp.).

EXPERIENCE

Principal (Buchpedersen.com)

2013-2015

- Consulting Associate Professor, University of Copenhagen.
- MBA, University of Warwick (2015/6 expect.).
- IESE Business School, Executive Program, 2013-2014.
- SME Consultancy.

Chief Executive Officer (Pcovery – Membrane Protein Drug Design)

2009 – 2013

- Founder and leading company as CEO and in effect CSO from instigation 2009->2013.
- Leading in-house (~8-10 scientists) as well as outsourced drug discovery activities.
- ~70M DKK raised through three rounds of fundraising for company growth 2009-2016.
- ~20M DKK soft-money funding for establishment of novel partnerships (consortia).
- Innovated novel tools for development of new pharmaceuticals with associated patent applications and publication in journal *Nature*.

Associate Professor (Univ. of Copenhagen & Univ. of Aarhus)

2005 – 2009

- Setting up research group with a focus on complex protein analysis: Biochemistry and 3D crystal structure determination of integral membrane transporters and membrane protein complexes.
- Publication of research discoveries in journals as *JBC*, *PNAS* and *Nature*.
- Setting up and coordinating industrial Consortia between Danish SME and Danish universities.
- ~7M DKK secured in external funding for Ph.D. stipends. Supervision of M.Sc. and Ph.D. students.

PUBLICATIONS & PATENT APPLICATIONS

- Pedersen, J.T., Falhof, J., Ekberg, K., **Buch-Pedersen, M.J.**, Palmgren, M. (2015) Metal Fluoride Inhibition of a P-type H⁺ Pump: Stabilization of the Phosphoenzyme Intermediate Contributes to Post-translational Pump Activation. *J. Biol. Chem.* jbc.M115.639385
- Wielandt, A.G., Pedersen, J.T., Falhof, J., Kemmer, G.C., Lund, A., Ekberg, K., Fuglsang, A.T., Pomorski, T.G., **Buch-Pedersen, M.J.**, Palmgren, M. (2015) Specific Activation of the Plant P-type Plasma Membrane H⁺-ATPase by Lysophospholipids Depends on the Autoinhibitory N- and C-terminal Domains. *J Biol Chem.* 290:16281-16291
- Winther, A.M., Bublitz, M., Karlsen, J.L., Møller, J.V., Hansen, J.B., Nissen, P., **Buch-Pedersen, M.J.** (2013) The sarcolipin-bound calcium pump stabilizes calcium sites exposed to the cytoplasm. *Nature* 495:265-9
- David-Bosne, S., Florent, I., Lund-Winther, A.M., Hansen, J.B., **Buch-Pedersen, M.**, Machillot, P., le Maire, M., Jaxel, C. (2013) Antimalarial screening via large-scale purification of Plasmodium falciparum Ca²⁺-ATPase 6 and in vitro studies. *FEBS J.* PMID: 23497141
- Ekberg, K., Wielandt, A.G., **Buch-Pedersen, M.J.**, Palmgren, M.G. (2013) A Conserved Asparagine in a P-type Proton Pump Is Required for Efficient Gating of Protons. *J. Biol. Chem.* 288:9610-8
- Lund-Winter, A., Bublitz, M., Hansen, J.B., Nissen, P., **Buch-Pedersen, M.J.** (2012) New crystal structures and uses thereof. *Patent application*
- Hansen, J.B., Winther, A., **Buch-Pedersen, M.J.** (2012) New compounds and uses thereof. *Patent application*
- Hansen, J.B., Winther, A., **Buch-Pedersen, M.J.** (2012) New compounds and uses thereof. *Patent application*
- Sørensen, D.M., Møller, A.B., Jakobsen, M.K., Jensen, M.K., Vangheluwe, P., **Buch-Pedersen, M.J.**, Palmgren, M.G. (2012) Ca²⁺ induces spontaneous dephosphorylation of a novel P5A-type ATPase. *J. Biol. Chem.* 287:28336-48
- Morth, J.P., Pedersen, B.P., **Buch-Pedersen, M.J.**, Andersen, J.P., Vilsen, B., Palmgren, M.G., Nissen, P. (2011) A structural overview of the plasma membrane Na⁺,K⁺-ATPase and H⁺-ATPase ion pumps. *Nat. Rev. Mol. Cell Biol.* 12:60-70
- Ekberg, K., Pedersen, B.P., Sørensen, D.M., Nielsen, A.K., Veierskov, B., Nissen, P., Palmgren, M.G., **Buch-Pedersen, M.J.** (2010) Structural identification of cation binding pockets in the plasma membrane proton pump. *Proc. Natl. Acad. Sci. U.S.A.* 107:21400-5
- Baekgaard, L., Mikkelsen, M.D., Sørensen, D.M., Hegelund, J.N., Persson, D.P., Mills, R.F., Yang, Z., Husted, S., Andersen, J.P., **Buch-Pedersen, M.J.**, Schjoerring, J.K., Williams, L.E., Palmgren, M.G. (2010) A combined zinc/cadmium sensor and zinc/cadmium export regulator in a heavy metal pump. *J. Biol. Chem.* 285:31243-52
- Sørensen, D.M., **Buch-Pedersen, M.J.**, Palmgren, M.G. (2010) Structural divergence between the two subgroups of P5 ATPases. *Biochim. Biophys. Acta.* 1797:846-55
- Ekberg, K., Palmgren, M.G., Veierskov, B., **Buch-Pedersen, M.J.** (2010) A novel mechanism of P-type ATPase autoinhibition involving both termini of the protein. *J. Biol. Chem.* 285:7344-50
- López-Marqués, R.L., Poulsen, L.R., Hanisch, S., Meffert, K., **Buch-Pedersen, M.J.**, Jakobsen, M.K., Pomorski, T.G., Palmgren, M.G. (2010) Intracellular targeting signals and lipid specificity determinants of the ALA/ALIS P4-ATPase complex reside in the catalytic ALA alpha-subunit. *Mol. Biol. Cell.* 21:791-801
- Yatime, L., **Buch-Pedersen, M.J.**, Musgaard, M., Morth, J.P., Lund Winther, A.M., Pedersen, B.P., Olesen, C., Andersen, J.P., Vilsen, B., Schiøtt, B., Palmgren, M.G., Møller, J.V., Nissen, P., Fedosova, N. (2009) P-type ATPases as drug targets: tools for medicine and science. *Biochim. Biophys. Acta.* 1787:207-20

- **Buch-Pedersen, M.J.**, Pedersen, B.P., Veierskov, B., Nissen, P., Palmgren, M.G. (2009) Protons and how they are transported by proton pumps. *Eur. J. Phys.* 457:573-9
- **Buch-Pedersen, M.J.**, Pedersen, B.P., Palmgren, M.G. and Nissen, P. (2007) Crystal structure of the H⁺-ATPase. *Patent application*
- Pedersen, B.P.*, **Buch-Pedersen, M.J.***, Morth, J.P., Palmgren, M.G., Nissen, P. (2007) Crystal structure of the plasma membrane proton pump. *Nature* 450:1111-4. *, *Shared first authors.*
- **Buch-Pedersen, M.J.**, Rudashevskaya, E.L., Berner, T.S., Venema, K., Palmgren, M.G. (2006) Potassium as an intrinsic uncoupler of the plasma membrane H⁺-ATPase. *J. Biol. Chem.* 281:38285-92
- López-Marqués, R.L., Pérez-Castiñeira, J.R., **Buch-Pedersen, M.J.**, Marco, S., Rigaud, J.L., Palmgren, M.G., Serrano, A. (2005) Large-scale purification of the proton pumping pyrophosphatase from *Thermotoga maritima*: a "Hot-Solve" method for isolation of recombinant thermophilic membrane proteins. *Biochim. Biophys. Acta.* 1716:69-76
- Fraysse, A.S., Møller, A.L., Poulsen, L.R., Wollenweber, B., **Buch-Pedersen, M.J.**, Palmgren, M.G. (2005) A systematic mutagenesis study of Ile-282 in transmembrane segment M4 of the plasma membrane H⁺-ATPase. *J. Biol. Chem.* 280:21785-90
- **Buch-Pedersen, M.J.**, Palmgren, M.G. (2003) Mechanism of proton transport by plant plasma membrane proton ATPases. *J. Plant Res.* 116:507-15
- **Buch-Pedersen, M.J.**, Møller, A.L., Palmgren, M.G.(2003) Mutagenic study of residues in transmembrane helix 4, 5, and 6 of the plant plasma membrane P-type H⁺-ATPase. *Ann. N. Y. Acad. Sci.* 986:349-50
- Palmgren, M.G., **Buch-Pedersen, M.J.**, Møller, A.L. (2003) Mechanism of proton pumping by plant plasma membrane H⁺-ATPase: role of residues in transmembrane segments 5 and 6. *Ann. N. Y. Acad. Sci.* 986:188-97
- **Buch-Pedersen, M.J.** & Palmgren, M.G. (2003) Conserved Asp684 in transmembrane segment M6 of the plant plasma membrane P-type proton pump AHA2 is a molecular determinant of proton translocation. *J. Biol. Chem.* 278:17845-51
- Bukrinsky, J.T., **Buch-Pedersen, M.J.**, Larsen, S., Palmgren, M.G. (2001) A putative proton binding site of plasma membrane H⁽⁺⁾-ATPase identified through homology modelling. *FEBS Lett.* 494:6-10
- **Buch-Pedersen, M.J.**, Venema, K., Serrano, R., Palmgren, M.G. (2000) Abolishment of proton pumping and accumulation in the E1P conformational state of a plant plasma membrane H⁺-ATPase by substitution of a conserved aspartyl residue in transmembrane segment 6. *J. Biol. Chem.* 275:39167-73