

Marjan Slak Rupnik CV

Professor Marjan Slak Rupnik, PhD

Current address

Business: Institute of Physiology, Center for Physiology and Pharmacology, Medical University of Vienna, Schwarzschanerstrasse 17A, 1090 Vienna, Austria

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Biographical data and education

Born: as Marjan Rupnik on 14 September 1966, Ljubljana, Slovenia

Family status: five children

Nationality: Slovenian, European Union

Postgraduate period: 1996 - 2000 Medical faculty, University of Ljubljana, Slovenia

Graduate studies: 1991-1996 Medical faculty, University of Ljubljana, Slovenia

Undergraduate studies: 1986-1991 Department of Biology, University of Ljubljana, Slovenia

Positions and employment

- 2015- Professor of Physiology, Center for Physiology and Pharmacology, Medical University of Vienna, Austria
- 2012- Professor of Physiology, Alma Mater Europaea – European Center Maribor, Slovenia
- 2013-2016 Principal Investigator, Center for open Innovation and Research, Maribor, Slovenia
- 2010-2014 Principal Investigator, Center of Excellence CIPKEBIP, Ljubljana, Slovenia
- 2005- Professor of Physiology, Faculty of Medicine, University of Maribor, Slovenia
- 2000-2006 Group leader, Max-Planck Institute for biophysical Chemistry/European Neuroscience Institute, Göttingen, Germany

Other Experience and Professional Memberships

- 2017- Member Austrian Diabetes Society
- 2016- Member and Treasurer, Austrian Physiological Society
- 2007-2013 Board of International Union of Physiological Sciences
- 1998- Member and President (2006-2011), Slovenian Physiological Society

Honors

2016	Award for outstanding contribution, Faculty of Medicine, University of Maribor
2015	Member of European Academy of Sciences and Arts Salzburg, Class Medicine
1992	University of Ljubljana France Preseren student award

International research experience

2000	Department of Neurophysiology, Medical faculty, University of Tokyo, Japan (T Takahashi)
1996	Department of Biochemistry, University of Wisconsin, Madison, USA (TFJ Martin)
1993&1994	BBSRC Babraham, Cambridge, England (WT Mason)
1989	Gatty Marine Institute, University of St. Andrews, Scotland (JLS Cobb)

Work for own scientific qualification

1. Rupnik M. The role of intracellular Ca²⁺ activity for the secretory activity of *pars intermedia* cells: measurements of membrane capacitance and conductance: Diploma thesis. Ljubljana, 1991. 38 f., (in Slovenian language)
2. Rupnik M. Regulation of the exocytotic activity in pituitary cells: the role of Cl⁻ channels and GTP-proteins : Master thesis. Ljubljana: 1994. 35 f., (in Slovenian language)
3. Rupnik M. The role of Rab3A proteins in the secretory activity of rat melanotrophs: PhD thesis. Ljubljana: 1996. 63 f., (in Slovenian language)

Publications in scientific journals

Summary:

Number of peer reviewed publications: 87

Number of book chapters. 7

Google Scholar citation indices:

citations: 6195 h-index: 43 i10-index: 83

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List of invited lectures (since 2008)

Recent invited scientific lectures

1. **Slak Rupnik M** (2023) High throughput analysis of cytosolic Ca²⁺ events in beta cell collectives, UCLA Islet research seminar series
2. **Slak Rupnik M** (2023) High throughput analysis of cytosolic Ca²⁺ events in pancreatic islets, University of Gothenburg, Sweden
3. **Slak Rupnik M** (2023) High throughput analysis of cytosolic Ca²⁺ events in pancreatic islets, Peking University, China

4. **Slak Rupnik M** (2022) High throughput analysis of cytosolic Ca²⁺ events in pancreatic islets, Universite Libre de Bruxelles (ULB), Belgium
5. **Slak Rupnik M** (2022) High throughput analysis of cytosolic Ca²⁺ events in pancreatic islets, Indiana University, Indianapolis
6. **Slak Rupnik M** (2019) Complexity and simplicity in beta cell collectives - Molecular basis of disease II, Slovenian Biochemical Society, Dobrna, Slovenia
7. **Slak Rupnik M** (2019) Complex systems in diabetes, European Academy of Science and Arts, Salzburg, Austria
8. **Slak Rupnik M** (2019) The role of beta cell collectives in insulin secretion: complexity vs. simplicity, lecture series (Taipei, Taichung, Tainan), Taiwan
9. **Slak Rupnik M** (2017) Origin of the beat, Karl Landsteiner University, Krems, Austria
10. **Slak Rupnik M** (2016) Systems biology of diabetes mellitus, IST, Klosterneuburg, Austria
11. **Slak Rupnik M** (2012) Beta testing. Out of the box meeting. 1st OUT OF THE BOX CONFERENCE, Maribor, Slovenia
12. **Slak Rupnik M** (2012) Glucose regulation of endocrine pancreas function. 91. DPG meeting, Dresden, Germany
13. **Slak Rupnik M** (2011) Switching gears in regulated exocytosis. 10 years ENI-G symposium, Göttingen, Germany
14. **Rupnik M** (2010) Calcium-dependence of exocytosis in pancreatic beta-cells, Djaja symposium, Belgrade, Serbia
15. **Rupnik M** (2010) Why should pancreatic beta-cells become resistant to glucose? Communicating physiology, Maribor, Slovenia
16. **Rupnik M** (2009) The gain of functional competence in perinatal mouse islets. Islet study group, Vienna, Austria
17. **Rupnik M** (2009) The physiology of rodent beta-cells in pancreas slices. FEPS meeting, Ljubljana, Slovenia
18. **Rupnik M** (2008) Physiology of pancreatic endocrine cells. Danish academy of sciences, Copenhagen, Denmark
19. **Rupnik M** (2008) Ca²⁺-dependence of exocytosis in endocrine cells in tissue slices. Recent advances in regulated membrane fusion, Nobel forum, Karolinska Institutet Stockholm, Sweden

Recent public lectures

1. **Rupnik M** (2010) One gram per liter or maybe a bit more. Biological science and society, Ljubljana
2. **Rupnik M** (2009) Human resources in slovenian science. National parliament, Ljubljana
3. **Rupnik M** (2007) Possibilities to enrol Slovenian population outside Slovenia into the work of slovene Universities, World Slovenian Congress, Ljubljana

Full list of publications

1. Rizk AA, Dybala MP, Rodriguez KC, **Slak Rupnik M**, Hara M. (2023) Pancreatic regional blood flow links the endocrine and exocrine diseases. *The Journal of Clinical Investigation.*; doi:10.1172/JCI166185, PMID: PMC10378168
2. Šterk M, Dolenšek J, Klemen MS, Bombek L K, Leitgeb E P, Kerčmar J, Perc M, **Slak Rupnik M**, Stožer A, Gosak M. (2023). Functional characteristics of hub and wave-initiator cells in β cell networks. *Biophysical Journal*, 122(5), 784-801.
3. *Postić S, Pfabe J, Sarikas S, et al, **Slak Rupnik M**, Huang Y-C (2023). Tracking Ca²⁺ dynamics in NOD mouse islets during spontaneous diabetes development. *Diabetes*; doi:10.2337/db22-0952, PMID: 37257067
4. *Korošak D, Postić S, Stožer A, **Slak Rupnik M** (2023) Collective biological computation in metabolic economy. *4Open*.6:3. doi.org/10.1051/fopen/2023002
5. *Postić S, Sarikas S, Pfabe J, Pohorec V, Križančić Bombek L, Sluga N, Skelin Klemen M, Dolenšek J, Korošak D, Stožer A, Evans-Molina C, Johnson JD, **Slak Rupnik M** (2023) High-resolution analysis of the cytosolic Ca²⁺ events in β cell collectives in situ. *Am J Physiol Endocrinol Metab*. 2023 Jan 1;324(1):E42-E55. doi: 10.1152/ajpendo.00165.2022. PMID: 36449570
6. *Sluga N, Križančić Bombek L, Kerčmar J, Sarikas S, Postić S, Pfabe J, Skelin Klemen M, Korošak D, Stožer A, **Slak Rupnik M**. (2022) Physiological levels of adrenaline fail to stop pancreatic beta cell activity at unphysiologically high glucose levels. *Front Endocrinol (Lausanne)*. 13:1013697. doi: 10.3389/fendo.2022.1013697. PubMed PMID: 36387857
7. *Korosak, D., Jusup, M., Podobnik, B., Holme, P., **Slak Rupnik, M.** (2021). Autopoietic Influence Hierarchies in Pancreatic Cells. *Physical Review Letters*, 2021, 127(16), 168101
8. *Stožer, A., Skelin Klemen, M., Gosak, M., Križančić Bombek, L., Pohorec, V., **Slak Rupnik, M.**, & Dolenšek, J. (2021). Glucose-dependent activation, activity, and deactivation of beta cell networks in acute mouse pancreas tissue slices. *American Journal of Physiology-Endocrinology and Metabolism*, 321(2), E305-E323. doi.org/10.1152/ajpendo.00043.2021
9. *Sluga, N., Postić, S., Sarikas, S., Huang, Y. C., Stožer, A., & **Slak Rupnik, M.** (2021). Dual Mode of Action of Acetylcholine on Cytosolic Calcium Oscillations in Pancreatic Beta and Acinar Cells In Situ. *Cells*, 10(7), 1580. doi.org/10.3390/cells10071580
10. Šterk, M., Bombek, L.K., Klemen, M.S., **Slak Rupnik, M.** Marhl, M., Stožer, A., Gosak, M. (2021) NMDA receptor inhibition increases, synchronizes, and stabilizes the collective pancreatic beta cell activity: Insights through multilayer network analysis. *PLoS Computational Biology*, 17(5), e1009002
11. Stožer, A., Dolenšek, J., Bombek, L.K., Pohorec, V., **Slak Rupnik, M.**, Klemen, M.S. (2021) Confocal laser scanning microscopy of calcium dynamics in acute mouse pancreatic tissue slices. *Journal of Visualized Experiments*, 2021 (170), art. no. e62293, DOI: 10.3791/62293
12. *Podobnik B, Korosak D, Skelin Klemen M, Stozer A, Dolensek J, **Slak Rupnik M**, et al., (2020) beta

- Cells Operate Collectively to Help Maintain Glucose Homeostasis. **Biophys J**, 118: p. 2588-2595. doi.org/10.1016/j.bpj.2020.04.005
13. *Korošak, D., & **Slak Rupnik, M.** (2019). Random Matrix Analysis of Ca²⁺ Signals in β -Cell Collectives. **Frontiers in physiology**, 10, 1194. doi.org/10.3389/fphys.2019.01194
 14. Stožer, A., Markovič, R., Dolenšek, J., Perc, M., Marhl, M., **Slak Rupnik, M.**, & Gosak, M. (2019). Heterogeneity and delayed activation as hallmarks of self-organization and criticality in excitable tissue. **Frontiers in physiology**, 10, 869. doi.org/10.3389/fphys.2019.00869
 15. Duh A, **Slak Rupnik M**, Korosak D (2018) Collective behavior of social bots is encoded in their temporal twitter activity. **Big data**. 6(2): 113-123. doi: 10.1089/big.2017.0041.
 16. *Korošak D, **Slak Rupnik M** (2018) Collective sensing of beta-cells generates the metabolic code. **Frontiers in Physiology**. 9:31. doi.org/10.3389/fphys.2018.00031.
 17. Gosak M, Stozer A, Markovic R, Dolensek J, Perc M, **Slak Rupnik M**, Marhl M (2017) Critical and Supercritical Spatiotemporal Calcium Dynamics in Beta Cells. **Frontiers in Physiology**. doi.org/10.3389/fphys.2017.01106
 18. Skelin Klemen M, Dolenšek J, **Slak Rupnik M**, Stožer A (2017) The triggering pathway to insulin secretion: functional similarities and differences between the human and the mouse beta cells and their translational relevance. **Islets**, ISSN 1938-2022.
 19. Daraio T, Križančić Bombek L, Gosak M, Valladolid-Acebes I, Skelin Klemen M, Refai E, Berggren P-O, Brismar K, **Slak Rupnik M**, Bark C (2017) SNAP-25b-deficiency increases insulin secretion and changes spatiotemporal profile of Ca²⁺ oscillations in β cell networks. **Scientific Reports**, 7(1) 7744. doi:10.1038/s41598-017-08082-y
 20. Šarenac T, Trapecar M, Gradišnik L, **Slak Rupnik M**, Pahor D. (2016) Single-cell analysis reveals IGF-1 potentiation of inhibition of the TGF- β /Smad pathway of fibrosis in human keratocytes in vitro. **Scientific reports**, 30:6: 34373. doi: 10.1038/srep34373
 21. Naranda J, Sušec M, Maver U, Gradišnik L, Gorenjak M, Vukasović A, Ivković A, **Slak Rupnik M**, Vogrin M, Krajnc P. (2016) Polyester type polyHIPE scaffolds with an interconnected porous structure for cartilage regeneration. **Scientific reports**, vol. 6, art. no. 28695, 1-11, doi: 10.1038/srep28695.
 22. Vogrin B, **Slak Rupnik M**, Mičetić-Turk (2016) Increased augmentation index and central systolic arterial pressure are associated with lower school and motor performance in young adolescents. **JIMR on-line**, ISSN 1473-2300.
 23. Gosak M, Dolenšek J, Markovič R, **Slak Rupnik M**, Marhl M, Stožer A (2015) Multilayer network representation of membrane potential and cytosolic calcium concentration dynamics in beta cells. **Chaos, solitons and fractals**. vol. 80, str. 76-82
 24. Gosak M, Stožer A, Markovič R, Dolenšek J, Marhl M, **Slak Rupnik M**, Perc M (2015) The relationship between node degree and dissipation rate in networks of diffusively coupled oscillators and its significance for pancreatic beta cells. **Chaos**, ISSN 1054-1500 vol. 25, iss. 7, 073115-1-073115-8, doi: 10.1063/1.4926673.
 25. Marquard J, Otter S, Welters A, Stirban A, Fischer A, Eglinger J, Herebian D, Klefke O, Skelin Klemen

- M, Stozer A, Wnendt S, Piemonti L, Köhler M, Ferrer J, Thorens B, Schliess F, **Slak Rupnik M**, Heise T, Berggren P-O, Klöcker N, Meissner T, Mayatepek E, Eberhard D, Kragl M, Lammert E. (2015) Characterization of pancreatic N-Methyl-D-Aspartate receptors as possible drug targets for diabetes treatment. *Nature Medicine* 21(4):363-372.
26. Kelc R, Trapecar M, Gradisnik L, **Slak Rupnik M**, Vogrin M (2015) Platelet-Rich Plasma, Especially When Combined with a TGF- β Inhibitor Promotes Proliferation, Viability and Myogenic Differentiation of Myoblasts In Vitro. *PLoS One*. 10(2):e0117302. doi: 10.1371/journal.pone.0117302.
27. *Markovič R, Stožer A, Gosak M, Dolenšek J, Marhl M, **Slak Rupnik M**. (2015) Progressive glucose stimulation of islet beta cells reveals a transition from segregated to integrated modular functional connectivity patterns. *Sci Rep*. 19;5:7845. doi: 10.1038/srep07845.
28. Marciniak A, Cohrs CM, Tsata V, Chouinard AJ, Selck C, Stertmann J, Reichelt S, Eehalt F, Weitz H, Solimena M, **Slak Rupnik M**, Speier S (2014) Pancreas tissue slices for in situ studies of islet of Langerhans and acinar cell biology, *Nature protocols* 9 (12), 2809-2822.
29. Trapecar M, Kelc R, Gradisnik L, Vogrin M, **Slak Rupnik M**. (2014) Myogenic progenitors and imaging single-cell flow analysis: a model to study commitment of adult muscle stem cells. *J Muscle Res Cell Motil*. 35(5-6):249-57. doi: 10.1007/s10974-014-9398-5.
- Tomić S, Đokić J, Vasiljić S, Ogrinc N, Rudolf R, Pelicon P, Vučević D, Milosavljević P, Janković S, Anžel I, Rajković J, **Slak Rupnik M**, Friedrich B, Colić M. (2014) Size-dependent effects of gold nanoparticles uptake on maturation and antitumor functions of human dendritic cells in vitro. *PLoS One*. 6;9(5):e96584. doi: 10.1371/journal.pone.0096584.
30. *Dolenšek J, Stožer A, Skelin Klemen M, Miller EW, **Slak Rupnik M** (2013) The Relationship between Membrane Potential and Calcium Dynamics in Glucose-Stimulated Beta Cell Syncytium in Acute Mouse Pancreas Tissue Slices, *PLoS ONE* 8(12): e82374. doi: 10.1371/journal.pone.0082374
31. Trapecar M, Goropevšek A, Gorenjak M, Gradišnik L, **Slak Rupnik M**. (2014) A Co-Culture Model of the Developing Small Intestine Offers New Insight in the Early Immunomodulation of Enterocytes and Macrophages by *Lactobacillus* spp. through STAT1 and NF- κ B p65 Translocation. **PLoS ONE** 9(1): e86297. doi: 10.1371/journal.pone.0086297
32. *Sedej S, Skelin Klemen M, Schlueter OM, **Slak Rupnik M** (2013) Rab3a Is Critical for Trapping Alpha-MSH Granules in the High Ca²⁺-Affinity Pool by Preventing Constitutive Exocytosis. **PLoS ONE** 8(10): e78883. doi: 10.1371/journal.pone.0078883
33. *Stožer A, Gosak M, Dolenšek J, Perc M, Marhl M, **Slak Rupnik M**, Korošak D. (2013) Functional connectivity in islets of Langerhans from mouse pancreas tissue slices. **PLOS Computational Biology**, 9(2): e1002923. doi:10.1371/journal.pcbi.1002923.
34. *Stožer A, Dolenšek J, Skelin Klemen M, Slak Rupnik M. (2013) Cell Physiology in Tissue Slices - Studying Beta Cells in the Islets of Langerhans. **ACTA MEDICO-BIOTECHNICA**, 6(1):20-32.
35. Lipovšek S, Janžekovič F, Leitinger G, **Rupnik MS**. (2013) Rab3a ablation related changes in morphology of secretory vesicles in major endocrine pancreatic cells, pituitary melanotroph cells

- and adrenal gland chromaffin cells in mice. **Gen Comp Endocrinol**, 185:67-79. doi: 10.1016/j.ygcen.2013.01.007.
36. *Stožer A, Dolenšek J, **Slak Rupnik M**. (2013) Glucose-stimulated calcium dynamics in islets of Langerhans in acute mouse pancreas tissue slices. **PLOS ONE**, 8(1): e54638. doi:10.1371/journal.pone.0054638.
 37. Zou N, Wu X, Jin YY, He MZ, Wang XX, Su LD, **Rupnik M**, Wu ZY, Liang L, Shen Y. (2013) ATP regulates sodium channel kinetics in pancreatic islet beta cells. **J Membr Biol**, 246(2):101-7. doi: 10.1007/s00232-012-9506-7.
 38. Huang YC, **Rupnik MS**, Karimian N, Herrera PL, Gilon P, Feng ZP, Gaisano HY. (2012) In situ electrophysiological examination of pancreatic α cells in the streptozotocin-induced diabetes model revealing the cellular basis of glucagon hypersecretion. **Diabetes**. PMID: 23043159
 39. *Tsiaze Beaudelaire E, Huang Y-C, Križančić Bombek L, Yang S-B, Jevšek M, Seino S, **Slak Rupnik M** (2012) Age-dependent changes in the exocytotic efficacy in Kir6.2 ablated mouse pancreatic cells. **Open Journal of Molecular and Integrative Physiology** 2:51-60.
 40. *Wu Z-Y, Zhu L-J, Križančić L, Shao C-Y, Zou N, Wang N, Wang X-X, Xia J, **Rupnik M**, Shen Y. (2012) AMPA receptors regulate exocytosis and insulin release in pancreatic beta cells. **Traffic**. 13(8):1124-39.
 41. Nyqvist D, Speier S, Rodriguez-Diaz R, Molano RD, Lipovsek S, **Rupnik M**, Dicker A, Ilegems E, Zahr-Akrawi E, Molina J, Lopez-Cabeza M, Villate S, Abdulreda M, Ricordi C, Caicedo A, Pileggi A, Berggren PO. (2011) Donor Islet Endothelial Cells in Pancreatic Islet Revascularization. **Diabetes**. 60(10):2571-7.
 42. *Dolenšek J, Skelin M, **Rupnik SM**. (2011) Calcium dependencies of regulated exocytosis in different endocrine cells. **Physiol Res**. 60 Suppl 1:S29-38.
 43. Mandic SA, Skelin M, Johansson JU, **Rupnik MS**, Berggren PO, Bark C. (2011) Munc18-1 and Munc18-2 Proteins Modulate β -Cell Ca^{2+} Sensitivity and Kinetics of Insulin Exocytosis Differently. **J Biol Chem**. 286(32):28026-40.
 44. Bonner C, Farrelly AM, Concannon CG, Dussmann H, Baquié M, Virard I, Wobser H, Kögel D, Wollheim CB, **Rupnik M**, Byrne MM, König HG, Prehn JH. (2011) Bone morphogenetic protein 3 controls insulin gene expression and is down-regulated in INS-1 cells inducibly expressing a hepatocyte nuclear factor 1A-maturity-onset diabetes of the young mutation. **J Biol Chem**. 286(29):25719-28.
 45. Balabanič D, **Rupnik M**, Klemenčič AK. (2011) Negative impact of endocrine-disrupting compounds on human reproductive health. **Reprod Fertil Dev**. 23(3):403-16.
 46. *Skelin M, **Rupnik M**. (2011) cAMP increases the sensitivity of exocytosis to Ca^{2+} primarily through protein kinase A in mouse pancreatic beta cells. **Cell Calcium**. 49(2):89-99.
 47. Huang YC, **Rupnik M**, Gaisano HY. (2011) Unperturbed islet β -cell function examined in mouse pancreas tissue slices. **J Physiol**. 589 (Pt 2):395-408.
 48. ***Rupnik M**. (2009) All together now: exocytose or fail. **Islets**. 1(1):78-80.

49. Paulmann N, Grohmann M, Voigt JP, Bert B, Vowinckel J, Bader M, Skelin M, Jevsek M, Fink H, **Rupnik M**, Walther DJ. Intracellular serotonin modulates insulin secretion from pancreatic beta-cells by protein serotonylation. **PLoS Biol.** 2009 Oct;7(10):e1000229.
50. *Sedej S, Gurung IS, Binz T, **Rupnik M** (2009) Phosphatidylinositol-4,5-bisphosphate-dependent facilitation of the ATP-dependent secretory activity in mouse pituitary cells. **Ann N Y Acad Sci.** 1152:165-73.
51. *Rozzo A, Meneghel-Rozzo T, Delakorda SL, Yang SB, **Rupnik M** (2009) Exocytosis of insulin: in vivo maturation of mouse endocrine pancreas. **Ann N Y Acad Sci.** 1152:53-62.
52. ***Rupnik M** (2009) The physiology of rodent beta-cells in pancreas slices. **Acta Physiol (Oxf).** 195(1):123-38.
53. Cocucci E, Racchetti G, **Rupnik M**, Meldolesi J (2008) The regulated exocytosis of enlargeosomes is mediated by a SNARE machinery that includes VAMP4. **J Cell Sci.**121(Pt 18):2983-91.
54. *Rose T, Efendic S, **Rupnik M** (2007) Ca²⁺-secretion coupling is impaired in diabetic Goto Kakizaki rats. **J Gen Physiol.** 129(6):493-508.
55. *Speier S, Gjinovci A, Charollais A, Meda P, **Rupnik M** (2007) Cx36-Mediated Coupling Reduces beta-Cell Heterogeneity, Confines the Stimulating Glucose Concentration Range, and Affects Insulin Release Kinetics. **Diabetes.** 56(4):1078-86.
56. Dudanova I, Sedej S, Ahmad M, Masius H, Sargsyan V, Zhang W, Riedel D, Angenstein F, Schild D, **Rupnik M**, Missler M (2006) Important contribution of alpha-neurexins to Ca²⁺-triggered exocytosis of secretory granules. **J Neurosci.** 26(41):10599-613.
57. **Rupnik M**, Kreft M, Nothias F, Grilc S, Bobanovic LK, Johannes L, Kiauta T, Vernier P, Darchen F, Zorec R (2006) Distinct role of Rab3A and Rab3B in secretory activity of rat melanotrophs. **Am J Physiol Cell Physiol.** 292(1):C98-105.
58. Kreft M, Blaganje M, Grilc S, **Rupnik M**, Zorec R. Glutamate stimulation increases hormone release in rat melanotrophs. **Neurosci Lett.** 404(3):299-302.
59. *Yang S-B, Major F, Tietze LT, **Rupnik M** (2005) Block of delayed-rectifier potassium channels by reduced-haloperidol and related compounds in mouse cortical neurons. (2005) **J Pharmacol Exp Ther.** 315(1):352-362.
60. *Sedej S, Rose T, **Rupnik M** (2005) cAMP increases Ca²⁺-dependent exocytosis through both PKA and Epac2 in mouse melanotrophs from pituitary tissue slices. **J Physiol.** 567(3):799-813.
61. *Turner J-E, Sedej S, **Rupnik M** (2005) Cytosolic Cl⁻ ions in the regulation of secretory and endocytotic activity in melanotrophs from mouse pituitary tissue slices. **J Physiol.** 566(2):443-453.
62. *Speier S, Yang S-B, Sroka K, Rose T, **Rupnik M.** (2005) KATP channels in beta-cells in pancreatic slices are directly modulated by millimolar ATP. **Mol Cell Endocrinol.** 230(1-2):51-8.
63. **Rupnik M**, Pabst S, **Rupnik M**, von Eichel-Streiber C, Urlaub H, Soling HD. (2005) Characterization of the cleavage site and function of resulting cleavage fragments after limited proteolysis of Clostridium difficile toxin B (TcdB) by host cells. **Microbiology.** 151(Pt 1):199-208.
64. *Sedej, S., **Rupnik, M.**, Zorec, R. (2005) Endocytosis requires Rab5 protein in rat melanotrophs

- (2005) **Ann NY Acad Sci** 1948:272-280.
65. Blyszczuk P, Asbrand C, Rozzo A, Kania G, St-Onge L, **Rupnik M**, Wobus AM. (2005) Embryonic stem cells differentiate into insulin-producing cells without selection of nestin-expressing cells. **Int J Dev Biol.** 48(10):1095-104.
66. Cocucci E, Racchetti G, Podini P, **Rupnik M**, Meldolesi J. (2004) Enlargeosome, an Exocytic Vesicle Resistant to Non-Ionic Detergents, Undergoes Endocytosis via a Non-Acidic Route. **Mol Biol Cell.** 15(12):5356-68.
67. Petrovič U, Šribar J, Pariš A, **Rupnik M**, Limpel-Kržan M, Vardjan N, Gubenšek F, Zorec R, Križaj I (2004) Ammodytotoxin, a neurotoxic secretory phospholipase A2, can act in the cytosol of the nerve cell, **Biochem Biophys Res Comm**, 324:981-985.
68. *Yang S-B, Proks P, Ashcroft F M, **Rupnik M**. (2004) Inhibition of ATP-sensitive potassium channels by haloperidol. **Br J Pharmacol.** 143(8):960-7
69. *Meneghel-Rozzo T., Rozzo A., Poppi L., **Rupnik M**. (2004) In vivo and in vitro development of mouse pancreatic β -cells in the organotypic slices. **Cell Tiss Res**, 316:295-303.
70. Kreft M., Stenovec M., **Rupnik M.**, et al.. (2004) Properties of Ca²⁺-dependent exocytosis in cultured astrocytes. **Glia**, 46 (4): 437-445.
71. *Sedej S., Tsujimoto T., Zorec R., **Rupnik M**. (2004) Voltage-activated Ca²⁺ channels and their role in the endocrine function of the pituitary gland in newborn and adult mice. **J Physiol.**, 555.3: 769-782.
72. *Speier S, **Rupnik M**. (2003) A novel approach to in situ characterization of pancreatic b-cells. **Pflugers Arch-Eur J Physiol** 446(5) 553-558.
73. Kreft M, Kuster V, Grilc S, **Rupnik M**, Milisav I, Zorec R. (2003) Synaptotagmin I increase the probability of vesicle fusion at low (Ca²⁺) in pituitary cells. **Am J Physiol, Cell Physiol**, 284: C547-54.
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