

Vitaly V. Vostrikov
Department of Biochemistry,
Molecular Biology & Biophysics
University of Minnesota
Minneapolis, MN, 55455
612/625-0786
vvostri@gmail.com

PUBLICATIONS (PEER-REVIEWED)

1. Vostrikov V., Grant C., Opella S., Koeppe R.
On the combined analysis of ^2H and $^{15}\text{N}/^1\text{H}$ solid-state NMR data for determination of transmembrane peptide orientation and dynamics.
Biophys. J., V. 101, N. 12, P. 2939-47. 2011.
2. Vostrikov V., Koeppe R.
Response of GWALP transmembrane peptides to changes in the tryptophan anchor positions.
Biochemistry, V. 50, N. 35, P. 7522-35. 2011.
3. Vostrikov V., Gu H., Ingolfsson H., Hinton J., Andersen O., Roux B., Koeppe R.
Gramicidin A backbone and side chain dynamics evaluated by molecular dynamics simulations and nuclear magnetic resonance experiments. II: Nuclear magnetic resonance experiments.
J. Phys. Chem. B, V. 115, N. 22, P. 7427-32. 2011.
4. Ingolfsson H., Li Y., Vostrikov V., Gu H., Hinton J., Koeppe R., Roux B., Andersen O.
Gramicidin A backbone and side chain dynamics evaluated by molecular dynamics simulations and nuclear magnetic resonance experiments. I: Molecular dynamics simulations.
J. Phys. Chem. B, V. 115, N. 22, P. 7417-26. 2011.
5. Vostrikov V., Daily A., Greathouse D., Koeppe R.
Charged or aromatic anchor residue dependence of transmembrane peptide tilt.
J. Biol. Chem., V. 285, N. 41, P. 31723-30. 2010.
6. Vostrikov V., Hall B., Greathouse D., Koeppe R., Sansom M.
Changes in transmembrane helix alignment by arginine residues revealed by solid-state NMR experiments and coarse-grained MD simulations.
J. Am. Chem. Soc., V. 132, N. 16, P. 5803-11. 2010.

7. Thomas R., Vostrikov V., Greathouse D., Koeppe R.
Influence of proline upon the folding and geometry of the WALP19 transmembrane peptide.
Biochemistry, V. 48, N. 50, P. 1183-91. 2009.
8. Rykalina V., Pudovkina G., Vostrikov V., Kalashnikova T., Sorokoumova G., Selishcheva A., Shvets V.
Comparative study of rifampicin characteristics in water phase and during interaction with liposomes – models of biological membranes (article in Russian).
Voprosy Biol. Med. Pharm. Khim., V. 4, P. 11-6. 2009.
9. Vostrikov V., Grant C., Daily A., Opella S., Koeppe R.
Comparison of “Polarization Inversion with Spin Exchange at Magic Angle” and “Geometric Analysis of Labeled Alanines” methods for transmembrane helix alignment.
J. Am. Chem. Soc., V. 130, N. 38, P. 12584-5. 2008.
10. Greathouse D., Vostrikov V., McClellan N., Chipollini J., Lay J., Liyanage R., Ladd T.
Lipid interactions of acylated tryptophan-methylated lactoferricin peptides by solid-state NMR.
J. Pept. Sci., V. 14, N. 10, P. 1103-10. 2008.
11. Vostrikov V., Selishcheva A., Sorokoumova G., Shakina Yu., Shvets V., Savel'ev O., Polshakov V.
Distribution coefficient of rifabutin in liposome/water system as measured by different methods.
Eur. J. Pharm. Biopharm., V. 68, N. 2, P. 400-5. 2008.
12. Minina A., Sorokoumova G., Vostrikov V., Rogozhkina E., Kalashnikova T., Shvets V., Selishcheva A., Golyshevskaya V., Martynova L., Erokhin V.
Degradation products and bacteriostatic activity of rifampicin in water solution and incorporated into liposomes (article in Russian).
Khim. Pharm. Zhurnal (Chemico-Pharmaceutical Journal), V. 42, N. 8, P. 35-8. 2008.
Reprinted in English in **Pharm. Chem. J.**, V. 42, N. 8, P. 35-8. 2008.
13. Vostrikov V., Selishcheva A., Sorokoumova G., Shvets V.
Determination of distribution coefficient of rifabutin by fluorescence study (article in Russian).
Biofizika (Biophysics), V. 52, N. 3, P. 521-6. 2007.
Reprinted in English in **Biophysics**, V. 52, N. 3, P. 331-5. 2007.
14. Vostrikov V., Selishcheva A., Sorokoumova G., Shvets V.
Distribution and partition coefficients of rifabutin and its ionized species in various model systems. (article in Russian).
Biologicheskie Membrany (Biological Membranes), V. 24, N. 2, P. 169-74. 2007.

15. Gusarov D., Vostrikov V., Ruchko E., Lasman A., Mikhalev A., Bairamashvili D.
Optimization of insulin and A21-desamidinsulin separation by reversed-phase high performance liquid chromatography (article in Russian).
Biotekhnologiya (Biotechnology), N. 2, P. 44-50. 2006.
16. Shakina Yu., Vostrikov V., Sorokoumova G., Selishcheva A., Shvets V.
Influence of pH on physico-chemical properties of rifabutin and its incorporation into liposomes (article in Russian).
Antibiot. Khimioter. (Antibiotics and Chemotherapy), V. 50, N. 7, P. 3-7. 2005.
17. Shakina Yu., Vostrikov V., Sorokoumova G., Selishcheva A., Shvets V.
Interaction of rifabutin with model membranes (article in Russian).
Byull. Eksp. Biol. Med. (Bulletin of Experimental Biology and Medicine), V. 140, N. 12, P. 664-6. 2005.
 Reprinted in English in **Bull. Exp. Biol. Med.**, V. 140, N. 6, P. 711-3. 2005.

CONFERENCE PAPERS AND PRESENTATIONS

1. Vostrikov V., Grant C., Opella S., Koeppe R. *On the treatment of dynamics during combined ^2H GALA and $^{15}\text{N}/^1\text{H}$ PISEMA analysis of transmembrane peptide tilt using solid-state NMR data.* **Biophysical Society 55th Annual Meeting**. 3455-Pos. USA, MD. March 2011.
2. DuVall C., Vostrikov V., Greathouse D., Koeppe R. *Influence of glycine substitutions on designed proline-containing transmembrane peptides.* **Biophysical Society 55th Annual Meeting**. 3443-Pos. USA, MD. March 2011.
3. Courtney J., Vostrikov V., Hinton J., Koeppe R. *Comparison of proline substitutions at positions 8 and 10 in WALP19.* **Biophysical Society 55th Annual Meeting**. 3442-Pos. USA, MD. March 2011.
4. Koeppe R., Froyd-Rankenbergh J., Vostrikov V., DuVall C., Greathouse D., Grant C., Opella S. *A proline kink in GWALP23.* **Biophysical Society 55th Annual Meeting**. 2860-Plat. USA, MD. March 2011.
5. Vostrikov V., Koeppe R. *Application of transmembrane peptides to investigation of protein-lipid interactions.* **Great Plains 4th Regional Annual Symposium on Protein & Biomolecular NMR 4th meeting**. USA, KS. October 2010.
6. Gleason N., Vostrikov V., Koeppe R. *Variable appearance of backbone C_α -deuteron signals in solid-state NMR spectra of designed membrane-spanning peptides.* **Great Plains 4th Regional Annual Symposium on Protein & Biomolecular NMR**. USA, KS. October 2010.

7. Gleason N., Vostrikov V., Koeppe R. *Observation of backbone C α -deuteron signals in solid-state NMR spectra of labeled alanines in oriented transmembrane peptides.* **Biophysical Society 54th Annual Meeting.** 485-Pos. USA, CA. February 2010.
8. Vostrikov V., Daily A., Greathouse D., Koeppe R. *Charged and aromatic anchoring amino acids affect the orientation of transmembrane peptides: a deuterium NMR study.* **Biophysical Society 54th Annual Meeting.** 486-Pos. USA, CA. February 2010.
9. Hall B., Vostrikov V., Koeppe R., Sansom M. *Sensitivity of coarse-grained models of peptides to the introduction of charged residues in model peptides and bacterial chemoreceptors.* **Biophysical Society 54th Annual Meeting.** 3351-Pos. USA, CA. February 2010.
10. Vostrikov V., Grant C., Opella S., Koeppe R. *Transmembrane peptide orientation: solid-state ^2H and ^{15}N NMR investigation by complementary methods.* **Rocky Mountain Conference for Analytical Chemistry 51st Annual Meeting.** 353. USA, CO. July 2009.
11. Greathouse D., Bradney L., McClelland N., Vostrikov V. *Solid-state ^2H NMR analysis of acylated lactoferricin peptides in oriented lipid bilayers.* **Rocky Mountain Conference for Analytical Chemistry 51st Annual Meeting.** 343. USA, CO. July 2009.
12. Vostrikov V., Greathouse D., Koeppe R. *Use of transmembrane peptides to investigate arginine interactions with lipid bilayers.* **Biophysical Society 53rd Annual Meeting.** 2347-Pos. USA, MA. March 2009.
13. Vostrikov V., Grant C., Opella S., Koeppe R. *Orientation of single-span transmembrane peptides investigated by independent solid-state NMR methods: GALA and PISEMA.* **Biophysical Society 53rd Annual Meeting.** 2341-Pos. USA, MA. March 2009.
14. Ingolfsson H., Vostrikov V., Gu H., Koeppe R., Roux B., Allen T., Andersen O. *Evaluating gA channel backbone dynamics by molecular dynamics and nuclear magnetic resonance.* **Biophysical Society 53rd Annual Meeting.** 787-Pos. USA, MA. March 2009.
15. Thomas R., Vostrikov V., Koeppe R. *Influence of proline upon the folding and geometry of the WALP19 transmembrane peptide.* **Biophysical Society 53rd Annual Meeting.** 2348-Pos. USA, MA. March 2009.
16. Gleason N., Vostrikov V., Koeppe R. *Comparison of mechanical and magnetic alignment of WALP-like peptides for solid-state NMR.* **Biophysical Society 53rd Annual Meeting.** 2349-Pos. USA, MA. March 2009.
17. Bradney L., Vostrikov V., Greathouse D. *Investigation of antimicrobial and lipid perturbing properties of lactoferrin peptides.* **Biophysical Society 53rd Annual Meeting.** 2359-Pos. USA, MA. March 2009.

18. Vostrikov V., Koeppe R. *Solid-state NMR approaches to transmembrane peptide tilt*. **American Chemical Society 64th Regional Meeting**. USA, AR. October 2008.
19. Vostrikov V., Koeppe R. *Properties of WALP23 in mixtures of oriented lipids investigated by solid-state ^2H and ^{31}P NMR spectroscopy*. **Biophysical Society 52nd Annual Meeting**. Biophys. J., V. 94, N. 1, P. 2103-Pos. USA, CA. February 2008.
20. Shakina Yu., Vostrikov V., Sorokoumova G., Selishcheva A., Shvets V. *Influence of pH on physico-chemical properties of rifabutin and its incorporation into liposomes*. **Moscow International Conference "Biotechnology and Medicine"**. Congress proceedings, P. 90-91. Moscow, Russia. March 2006.
21. Shakina Yu., Vostrikov V., Sorokoumova G., Selishcheva A., Shvets V. *Influence of pH on physico-chemical properties of rifabutin*. **5-th Annual International Conference for Student Researchers "Biochemical Physics" at Institute of Biochemical Physics (Russian Academy of Sciences)**. Conference proceedings, P. 146-147. Moscow, Russia. December 2005.
22. Utkina E., Vostrikov V., Sorokoumova G., Selishcheva A., Shvets V. *Factors affecting the antioxidant activity of natural flavonoids*. **3-rd Meeting of Yu. A. Ovchinnikov Russian Biotechnological Society**. Conference proceedings, P. 102-103. Moscow, Russia. October 2005.
23. Utkina E., Vostrikov V., Sorokoumova G., Selishcheva A., Shvets V. *Factors affecting the antioxidant activity of natural flavonoids*. **4-th International Conference "Reactive Oxygen and Nitrogen Species, Antioxidants and Human Health"**. Conference proceedings, P. 101-103. Smolensk, Russia. September 2005.
24. Gusarov D., Vostrikov V., Ruchko E., Bairamashvili D. *Application of high performance liquid chromatography (HPLC) in the manufacturing of human regular insulin*. **3-rd Moscow International Congress "Biotechnology: state of the Art and Prospects of Development"**. Congress proceedings, V. 1, P. 141. Moscow, Russia. March 2005.
25. Shakina Yu., Vostrikov V., Sorokoumova G., Selishcheva A., Shvets V. *Incorporation of antituberculosis drug rifabutin into liposomes*. **3-rd Moscow International Congress "Biotechnology: state of the Art and Prospects of Development"**. Congress proceedings, V. 1, P. 41. Moscow, Russia. March 2005.
26. Gusarov D., Vostrikov V., Bairamashvili D. *Optimization of separation conditions for insulin and A21 desamidoinulin for reversed-phase high performance liquid chromatography*. Proceedings of the **17-th Winter School for Student Researchers at the Institute of Bioorganic Chemistry (Russian Academy of Sciences)**, P. 88. Moscow, Russia. February 2005.