CURRICULUM VITAE

PERSONAL

NAME:	**Natalia I. Krupenko**
OFFICE ADDRESS:	Department of Nutrition, Nutrition Research Institute, UNC Chapel Hill 500 Laureate Way, Kannapolis NC 28081
PHONE/FAX:	(704)-250-5054 / (704)-250-5001
E-MAIL ADDRESS:	natalia_krupenko@unc.edu
HOME ADDRESS:	1820 Enochville Rd., Kannapolis, NC 28081 Phone: (704)-925-1381

EDUCATION, ACADEMIC TRAINING AND DEGREES

1999	International School of Structural Biology and Magnetic Resonance, NATO Advanced Study Institute, 4-th course: "Dynamics, structure and function in biological macromolecules".
1992-1994	The Rockefeller Foundation Fellow in Population Sciences, Center for Reproductive Biology Research, Vanderbilt University School of Medicine, Nashville, TN.
1987	Institute of Bioorganic Chemistry, Byelorussian Academy of Sciences, Ph.D. in Bioorganic Chemistry, Thesis title: "Specific Binding of Sex Steroid Hormones By Human Sex Steroid Binding Globulin" (Advisor Prof. Oleg A. Strel'chyonok)
1980-1983	Graduate School, Institute of Bioorganic Chemistry, Byelorussian Academy of Sciences, Minsk, USSR
1975-1980	Byelorussian State University, Minsk, USSR, B.S. in Biochemistry

PROFESSIONAL EXPERIENCE

2014-present	Assistant Professor, Department of Nutrition, NRI UNC-CH
2010-2014	Assistant Professor, Dept. Biochemistry & Molecular Biology, MUSC
2000-2010	Research Assistant Professor, Dept. Biochemistry & Molecular Biology, MUSC
1997-1999	Research Instructor, Dept. Biochemistry, Vanderbilt University School of Medicine
1994-1997	Research Fellow, Dept. Biochemistry, Vanderbilt University School of Medicine
1992-1994	Visiting Instructor, Center for Reproductive Biology Research, Vanderbilt University School of Medicine
1990-1992	Senior Staff Scientist, Inst. of Bioorganic Chemistry, Byelorussian Acad. of Sci.
1989-1990	Staff Scientist, Inst. of Bioorganic Chemistry, Byelorussian Acad. of Sci.
1983-1989	Research Associate, Inst. of Bioorganic Chemistry, Byelorussian Acad. of Sci.

HONORS

2012	Advances and Controversies in B-vitamins and Choline Conference, Leipzig, Germany 1-st place Poster Award

1992 The Rockefeller Foundation Fellow in Population Sciences

PEER-REVIEWED PUBLICATIONS

1. **Krupenko N.I.**, Holmes R.S., Tsybovsky Y., Krupenko S.A. (2015) Aldehyde dehydrogenase homologous folate enzymes: Evolutionary switch between cytoplasmic and mitochondrial localization, *Chem Biol Interact*, 234:12-7.
2. Oleinik N.V., Helke K.L., Kistner-Griffin E., **Krupenko N.I.**, Krupenko S.A. (2014) Rho GTPases RhoA and Rac1 mediate effects of dietary folate on metastatic potential of A549 cancer cells through the control of cofilin phosphorylation, *J Biol Chem.* 289, 26383-94.
3. Prakasam A., Ghose S., Oleinik N.V., Bethard J.R., Peterson Y.K., **Krupenko N.I.**, Krupenko S.A. (2014) JNK1/2 regulate Bid by direct phosphorylation at Thr59 in response to ALDH1L1, *Cell Death Dis.* 5, e1358.
4. **Krupenko N.I.** (2013) Ceramide signaling in cellular adaptation to folate stress, *J Inherit Metab Dis*, 36, Sup. 1, S15.
5. DebRoy S., Kramarenko I., Ghose S., Oleinik N.V., Krupenko S.A. and **Krupenko N.I.** (2013) A novel tumor suppressor function of glycine N-methyltransferase is independent of its catalytic activity but requires the nuclear localization, *PLOS One*, 8, (7):e70062, doi: 10.1371.
6. Christensen K.E., Deng L., Leung K.Y., Arning E., Bottiglieri T., Malysheva O.V., Caudill M.A., **Krupenko N.I.**, Greene N.D., Jerome-Majewska L., MacKenzie R.E., Rozen R. (2013) A novel mouse model for genetic variation in 10-formyltetrahydrofolate synthetase exhibits disturbed purine synthesis with impacts on pregnancy and embryonic development, *Human Molecular Genetics*, 22, 3705-3719.
7. Hoeferlin L.A., Fekry B., Krupenko S., **Krupenko N.I.** (2013) Folate Stress Induces Apoptosis via p53-dependent de Novo Ceramide Synthesis and Up-regulation of Ceramide Synthase 6, *J Biol Chem*, 288, 12880-12890.
8. Strickland K.C., **Krupenko N.I.**, Krupenko S.A. (2013) Molecular mechanisms underlying the potentially adverse effects of folate, *Clin Chem Lab Med*, 51, 607-616.
9. Hoeferlin L.A., Oleinik N.V., **Krupenko N.I.**, and Krupenko S.A. (2011) Activation of p21-dependent G1/G2 arrest in the absence of DNA damage as an anti-apoptotic response to metabolic stress, *Genes and Cancer*, 2, 889-899.
10. Oleinik N.V., **Krupenko N.I.**, and Krupenko S.A. (2011) Methylation of exon 1 of ALDH1L1 is associated with gene silencing in tumors *Genes Cancer*, 2, 130-139.
11. Carrasco M., Enyedy E.A., **Krupenko N.I.**, Krupenko S.A., Nuti E., Tuccinardi T., Santamaria S., Rossello R., Martinelli A., and Santos M.A. (2011) Novel Folate-Hydroxamate Based Antimetabolites: Synthesis and Biological Evaluation, *Med Chem.* 7, 256-274.
12. Strickland K.C., Holmes R.S., Oleinik N.V., **Krupenko N.I.**, and Krupenko S.A. (2011) Phylogeny and evolution of aldehyde dehydrogenase-homologous folate enzymes *Chem Biol Interact*, 191, 122-128.
13. Strickland K.C., **Krupenko N.I.**, Dubard M.E., Hu C.J., Tsybovsky Y., and Krupenko S.A. (2011) Enzymatic properties of ALDH1L2, a mitochondrial 10-formyltetrahydrofolate dehydrogenase *Chem Biol Interact*, 191, 129-136.
14. Knock E., Deng L., **Krupenko N.I.**, Mohan, R., Wu Q., Leclerc D., Gupta S., Elmore C.L., Kruger W., Tini M., and Rozen R. (2011) Susceptibility to intestinal tumorigenesis in folate-deficient mice may be influenced by variation in one-carbon metabolism and DNA repair. *J Nut. Biochem*, 22, 1022-1029.
15. Oleinik N.V., **Krupenko N.I.**, and Krupenko S.A. (2010) ALDH1L1 inhibits cell motility via dephosphorylation of cofilin by PP1 and PP2a. *Oncogene*, 29, 6233-6244.
16. Marques S.M., Enyedy E.A., Supuran C.T., **Krupenko N.I.**, Krupenko S.A., and Santos M.A. (2010) Pteridine-Sulfonamide Conjugates as Dual Inhibitors of Carbonic Anhydrase and Dihydrofolate Reductase with Potential Antitumor Activity, *Bioorg. and Med. Chem.*, 18, 5081-

5089.
17. **Krupenko N.I**., Dubard M.E., Strickland K.C., Moxley K.M., Oleinik N.V., Krupenko S.A. (2010) ALDH1L2 is the mitochondrial homolog of 10-formyltetrahydrofolate dehydrogenase. *J. Biol. Chem.* 285, 23056-23063.
18. Strickland K.C., Hoeferlin L.A., Oleinik V.N., **Krupenko N.I.**, and Krupenko S.A. (2010) Acyl Carrier Protein-specific 4'-Phosphopantetheinyltransferase Activates 10-Formyltetrahydrofolate Dehydrogenase *J Biol. Cem.* 285, 1627 – 1633.
19. Ghose S., Oleinik N.V., **Krupenko N.I.**, Krupenko S.A. (2009) 10-formyltetrahydrofolate dehydrogenase-induced c-Jun-NH2-kinase pathways diverge at the c-Jun-NH2-kinase substrate level in cells with different p53 status. *Mol Cancer Res*. 7, 99-107.
20. Celtikci B., Leclerc D., Lawrance A.K., Deng L., Friedman H.C., **Krupenko N.I.**, Krupenko S.A., Melnyk S., James S.J., Peterson A.C., Rozen R. (2008) Altered expression of methylenetetrahydrofolate reductase modifies response to methotrexate in mice. *Pharmacogenet Genomics.* 7, 577-589.
21. Donato H., **Krupenko N.I.**, Tsybovsky Y., Krupenko S.A. (2007) 10-formyltetrahydrofolate dehydrogenase requires a 4'-phosphopantetheine prosthetic group for catalysis. *J Biol Chem.* 282, 34159-34166.
22. Oleinik N.V., **Krupenko N.I.**, Krupenko S.A. (2007) Cooperation between JNK1 and JNK2 in activation of p53 apoptotic pathway. *Oncogene* 26, 7222-7230.
23. Elmore C.L., Wu X., Leclerc D., Watson E.D., Bottiglieri T., **Krupenko N.I.**, Krupenko S.A., Cross J.C., Rosen R., Gravel R.A., Matthews R.G. (2007) Metabolic derangement in methionine and folate metabolism in mice deficient in methionine synthase reductase. *Mol Genet Metab*, 91, 85-97.
24. Tsybovsky, Y., Donato, H., **Krupenko, N.I**., Davies, C., Krupenko, S.A. (2007) The crystal structure of he carboxyl terminal domain of 10-formyltetrahydrofolate dehydrogenase: implications for the catalytic mechanism of aldehyde dehydrogenases *Biochemistry*, 46, 2917-2929.
25. Santos M.A., Enyedy E.A., Rossello A., Carelli P., **Krupenko N.I.**, Krupenko S.A. (2007) Methotrexate gamma-hydroxamate derivatives as potential dual target antitumor drugs. *Bioorg. Med. Chem.* 15, 1266-1274.
26. Oleinik N.V., **Krupenko N.I.**, Reuland S.N., Krupenko S.A. (2006) Leucovorin-induced resistance against FDH growth suppressor effects occurs through DHFR up-regulation.*Biochem Pharmacol.* 72(2), 256-66.
27. Chattopadhyay S., Zhao R., Krupenko S., **Krupenko N.**, Goldman D.I. (2006) The inverse relationship between reduced folate carrier function and pemetrexed activity in a human colon cancer cell line. *Mol Cancer Ther.* 5(2), 438-49.
28. Oleinik N.V., **Krupenko N.I.**, Priest D.G., Krupenko S.A. (2005) Cancer cells activate p53 in response to 10-formyltetrahydrofolate dehydrogenase expression. *Biochem J*. 391(Pt 3):503-11.
29. **Krupenko N.I.**, Wagner C. (1997) Transport of rat liver glycine N-methyltransferase into rat liver nuclei. *J. Biol. Chem.* 272, 27140-27146.
30. Krupenko S.A., Kolesnik O.I., **Krupenko N.I.,** Strel'chyonok O.A. (1995) Organization of the transcortin-binding domain on placental plasma membranes. *Biochim. Biophys. Acta* 1235, 387-394.
31. Krupenko S.A., **Krupenko N.I.,** Danzo B.J. (1994) Interaction of sex hormone-binding globulin with plasma membranes from the rat epididymis and other tissues. *J. Steroid Biochem. Molec. Biol.* 51, 115-124.
32. **Krupenko N.I.,** Avvakumov G.V., Strel'chyonok O.A. (1990) Binding of human sex hormone-binding globulin-androgen complexes to the placental syncytiotrophoblast membrane. *Biochem.Biophys. Res. Commun.* 171 3, 1279-1283.
33. Avvakumov G.V., **Zhuk N.I.,** Strel'chyonok O.A. (1988) On the biological role of the carbohydrate component of human sex steroid-binding globulin. *Biokhimiya* 53, 838-841.

34. Avvakumov G.V., **Zhuk N.I.,** Strel'chyonok O.A. (1986) Subcellular distribution and selectivity of the protein-binding component of the recognition system for sex hormone-binding protein-estradiol complex in human decidual endometrium. *Biochim. Biophys. Acta* 881, 489-498.
35. **Zhuk N.I.,** Avvakumov G.V., Strel'chyonok O.A. (1985) Interactions of sex hormone-binding globulin - steroid complexes with decidual endometrium plasma membranes. *Biokhimiya* 50, 1105-1107.
36. **Zhuk N.I.,** Sviridov O.V., Strel'chyonok O.A., Akhrem A.A. (1983) Spectral effects of steroid binding to human sex hormone-binding globulin. *Dokl. Akad. Nauk BSSR,* 37, 1024-1027.
37. Strel'chyonok O.A., **Zhuk N.I.,** Sviridov O.V., Akhrem A.A. (1982) Molecular aspects of steroid-protein interactions**.** *Izvestiya Acad. Nauk BSSR, Ser.Chim. Nauk* 6, 90-97.

INVITED PRESENTATIONS

2015 3RD Alcohol and Cancer Conference, Hersonissos, Crete, Greece *"Metabolic Cross-Talk: Folate and Sphingolipids".*

2015 9th Congress of the International Society of Nutrigenetics and Nutrigenomics, Chapel Hill, NC *"Individual Folate Intake Requirements".*

2015 International Ceramide Conference and Sphingolipid Club Joint Meeting, Cesme, Izmir, Turkey *"C_{16}-ceramide is a natural regulatory ligand of p53"*.

2015 Apetite for Life series, Kannapolis, NC *"Vitamins and Healthy Diet: Balance is the Key"*.

2015 COBRE for Lipidomics in Pathobiology Retreat, MUSC, Charleston, SC *"CerS6 in stress response".*

2015 Department of Nutrition, UNC, Chapel Hill, NC *"Genetic Make Up and Nutritional Status: Focus on Folate".*

2014 FASEB Summer Research Conference, Steamboat Springs, CO *"Glycine N-methyltransferase: a Multitasking Cellular Regulator".*

2014 Catalyst Symposium, Kannapolis, NC *"Cross-Talk Between Folate and Lipid Metabolism".*

2013 9th International Conference on Homocysteine and One Carbon Metabolism, Dublin, Ireland *"Ceramide Signaling In Cellular Adaptation To Folate Stress".*

2013 Department of Nutrition, UNC, Chapel Hill, NC "*Molecular aspects of nutrition: metabolic and regulatory function of dietary folate*"

2012 FASEB Summer Research Conference, Kolymbari, Crete, Greece *"Activation of ceramide pathways as a cellular response to folate stress".*

2012 UNC Chapel Hill NRI, Kannapolis, NC "*Folate regulatory enzymes and cancer*"

2012 Lipid Signaling in Cancer Program Retreat, Charleston, SC *"Cross talk between the* sphingolipid and folate pathways".

2012 Advances and Contriversies in B-vitamins and Choline Conference, Leipzig, Germany *"A novel function for an old folate enzyme".*
*Chosen and evaluated as exceptional (10) by the Faculty of 1000

2011 Annual COBRE in Lipidomics and Pathobiology Retreat, Charleston, SC *"Cross talk between the sphingolipid and folate pathways".*

2011 MUSC CGMR Program retreat, Charleston, SC *"Glycine N-methyltransferase: regulator of cellular proliferation."*

2010 FASEB Summer Research Conference, Carefree, AZ *"Identification of the interacting partners of Glycine N-methylrtansferase".*

2010 Annual COBRE in Lipidomics and Pathobiology Retreat, Charleston, SC *"Cross talk between the spingolipid and folate pathways".*

2009 MUSC DBS Retreat, Charleston, SC *"Nucleic Acid Analysis Facility - A Service Resource Available for Basic and Clinical Research".*

2009 Annual COBRE in Lipidomicas nd Pathobiology Retreat, Charleston, SC *"Cross talk*

between the spingolipid and folate pathways"

2006 FASEB Summer Research Conferences, Indian Wells, CA *"The putative 10-formyltetrahydrofolate dehydrogenase: a novel mitochondrial folate enzyme".*

1999 Dept. Biochemistry & Molecular Biology, MUSC, Charleston, CS *"Nuclear transport of Glycine N-methyltransferase"*

1997 Dept. Biochemistry, Vanderbilt University School of Medicine, Nashville, TN *" Nuclear Glycine N-methyltransferase"*

1993 Center for Reproductive Biology Research, Vanderbilt University School of Medicine, Nashville, TN *"Iinteraction of sex hormone-binding globulin with epididymal plasma membranes".*

1985 Fourth Conference for Young Scientists on Bioorganic Chemistry, Tsahkadzor, USSR *"Spectral effects of ligand binding to sex hormone-binding globulin".*

1984 Third Conference for Young Scientists on Bioorganic Chemistry, Erevan, USSR *" Structural requirements for ligand binding to sex hormone-binding globulin".*

POSTER PRESENTATIONS

4th Annual Catalyst Symposium, April 30, 2015, NCRC, Kannapolis, NC " Ceramide Synthase 6 is a transcriptional target of p53 in cellular stress response" Fekry B., Esmaeilniakooshkghazi A., Krupenko S.A., **Krupenko N.I.**

2015 Annual ASBMB Meeting, March 28 - April 1, 2015, Boston, MA, "Metabolic alterations in mice lacking a major folate catabolic enzyme", Fekry B., **Krupenko N.I.** and Krupenko S.A.

7-th International Ceramide Conference, October 20-24, 2013, Montauk, NY, "CerS6-dependent cellular response to folate stress", Baharan Fekry, Alexis Hoeferlin, Sergey Krupenko, **Natalia Krupenko.**

Advances and Controversies in B-vitamins and Choline, March 5-8, 2012, Leipzig, Germany, "Folate-dependent regulation of cellular motility", Sergey A. Krupenko, **Natalia I. Krupenko**, Natalia V. Oleinik.

Advances and Controversies in B-vitamins and Choline, March 5-8, 2012, Leipzig, Germany, "A novel function for an old folate enzyme" **Natalia Krupenko**, Inga Kramarenko, Suchandra DebRoy, Sergey krupenko.*****

**Chosen and evaluated as exceptional (10) by the Faculty of 1000*

Annual HCC Research retreat, November 18, 2011, Antiproliferative function of GNMT, a major metabolic regulator of methylation, Inga I. Kramarenko, Suchandra DebRoy, Sampa Ghose, **Natalia Krupenko.**

46th Annual S.E.R.L.C., High Hampton Inn, Cashiers, NC, November 9-11, 2011, Activation of ceramide pathways as a cellular response to folate stress, L. Alexis Hoeferlin, Sergey A. Krupenko, **Natalia Krupenko.**

AACR Special Conference, "Metabolism and Cancer", October 16 -19, 2011, Baltimore, MD, Metabolic effects of ALDH1L1 evoke cell cycle arrest, apoptosis and inhibition of cell motility, Oleinik, N. V., **Krupenko N. I**., Krupenko S.A.

Cancer Genes & Molecular Regulation Program Retreat, Hollings Cancer Center, Charleston, SC, September 9-10, 2011, "Metabolic effects of Aldh1l1 evoke cell cycle arrest, apoptosis and inhibition of motility", Sergey Krupenko, **Natalia I. Krupenko**, Natalia V. Oleinik

8th International Conference on Homocysteine Metabolism, Lisbon, Portugal, June 19-22, 2011. Epigenetic silencing of ALDH1L1, a metabolic regulator of cellular proliferation, in cancers. Sergey Krupenko, Natalia Oleinik, **Natalia Krupenko.**
45th Annual S.E.R.L.C., High Hampton Inn, Cashiers, NC, November 11-14, 2010, Ceramides as potential signaling mediators of folate stress. L. Alexis Hoeferlin, Sergey A. Krupenko, **Natalia Krupenko.**
rupenko N. I., Krupenko S.A.

FASEB Summer Research Conference "Folic acid, B12 and one carbon metabolism", Carefree, AZ, August 1-6, 2010 :

1. "Folate regulates actin dynamics and cell motility via dephosphorylation of cofilin." Sergey A. Krupenko, **Natalia I. Krupenko**, and Natalia V. Oleinik.
2. "Identification of the interacting partners of Glycine N-methylrtansferase." **Natalia I. Krupenko**, Suchandra DebRoy, Sergey A. Krupenko.
3. "Ceramides as potential signaling mediators of folate stress." L. Alexis Hoeferlin, **Natalia Krupenko**, Sergey A. Krupenko.

15th International Symposium "Enzymology and Molecular Biology of Carbonyl Metabolism", Lexington, KY, July 6 – 11, 2010: Enzymatic properties of a mitochondrial 10-formyltetrahdyrofolate dehydrogenase (ALDH1L2). Kyle C. Strickland, **Natalia I. Krupenko**, Marianne E. Dubard, and Sergey A. Krupenko.

101st American Association of Cancer Research (AACR) Annual Meeting, April 17 -21, 2010, Washington DC. Mitochondrial 10-formyltetrahydrofolate dehydrogenase: A novel enzyme in folate metabolism. Marianne E. Dubard, Kyle C. Strickland, Natalia V. Oleinik, **Natalia I. Krupenko**, Sergey A. Krupenko.

Eighth Annual Research Retreat, Holling Cancer Center, MUSC, Charleston, SC, December 5, 2008, "FDH-induced JNK pathways diverge at the JNK substrate level in cells with different p53 status", Sampa Ghose, Natalia V. Oleinik, Natalia I. Krupenko, **Sergey A.Krupenko**

XXth International Symposium on Medicinal Chemistry, August 31- September 4, 2008, Vienna, Austria:

1. Novel Aminopteroil-sulfonamide derivatives as inhibitors of dihydrofolate reductase and carbonic anhydrase, with potential anti tumor activity. Sérgio M. Marques, Éva A. Enyedy, Tiziano Tuccinardi, Adriano Martinelli, Claudiu C. Supuran, **Natalia I. Krupenko**, Sergey A. Krupenko and M. Amélia Santos.
2. Synthesis and biological evaluation of folic acid derivatives as histone deacetylase inhibitors. M. Amelia Santos, Eva A. Enyedy, Marta Carrasco, **Natalia I. Krupenko**, Sergey A. Krupenko, Elisa Nuti, Tiziano Tuccinardi, Armando Rossello, Adriano Martinelli.

FASEB Summer Research Conference "Folic acid, B12 and one carbon metabolism", August 10-15, 2008, Il Ciocco, Lucca, Italy. GNMT, a folate regulated enzyme, suppresses proliferation of cancer cells, Sampa Ghoose, Sergey A. Krupenko, **Natalia I. Krupenko.**

14th international symposium Enzymology and Molecular Biology of Carbonyl Metabolism, July 8-12, 2008, Kranjska Gora, Slovenia, ALDH1L2: a new member of the aldehyde dehydrogenase family with putative function in mitochondria. **Natalia I. Krupenko**, Natalia V. Oleinik and Sergey A. Krupenko.

FASEB Summer Research Conference, Indian Wells, CA, August 5-10, 2006:

1. The putative 10-formyltetrahydrofolate dehydrogenase: a novel mitochondrial folate enzyme. **Natalia Krupenko**, Natalia Oleinik, Sergey Krupenko.
2. Crystal Structure of the carboxyl terminal domain of 10-formyltetrahydrofolate dehydroegnase: implications for dehydrogenase catalysis. Yaroslav Tsybovsky, Henry Donato, **Natalia Krupenko,** Christopher Davis, Sergey Krupenko.

13th International Symposium on Chemistry & Biology of Pteridines and Folates, Egmond aan Zee, The Netherlands, June 20-24, 2005, Tumor suppressor effects of 10-formyltetrahydrofolate dehydrogenase. Sergey Krupenko, Natalia Oleinik, **Natalia Krupenko.**

9th World Congress on Advances in Oncology and 7-th International Symposium on Molecular Medicine, Hersonissos, Crete, Greece, October 14-16, 2004:

1. Tumor suppressor activity of FDH, a folate metabolizing enzyme. Sergey Krupenko, Natalia Oleinik, **Natalia Krupenko.**
2. Antiproliferative effects of folate and methotrexare derivatives possessing metalloproteinase inhibition capabilities as a secon function. Amelia Santos, Eva Enyedy, **Natalia Krupenko**, C.T. Supuran, Andrea Scozzafava, Sergey Krupenko.

FASEB Summer Research Conference, Snowmass, CO, August 6-10, 2000. GNMT is an enzyme ubiquitously expressed in rat tissues. **Natalia Krupenko**, Conrad Wagner.

2d International Conference on Molecular Structural Biology, Vienna, Austria, September 10-14, 1997. Side-chains of lysines play a critical role in subunit interactions of the tetrameric GNMT. **Natalia Krupenko,** Conrad Wagner.

75th Annual Meeting of The Endocrine Society, Las Vegas, NE, June 9-12, 1993, Involvement of steroid in the interaction of sex-hormone-binding globulin with epididymal membranes. **Natalia Krupenko**, Sergey Krupenko, Ben Danzo.

EDITORIAL

2009 North Carolina Technology Initiative reviewer.
Reviewer for the Chemico-Biological Interactions.

TEACHING

2013	Fundamentals of Biomedical Chemistry, Cellular and Molecular Biology, College of Graduate Studies (4 cont. h., 19 students).
2011	Fundamentals of Biomedical Chemistry, Cellular and Molecular Biology, College of Graduate Studies (4 cont. h., 18 students).
2009	Molecular Basis of Apoptosis, BMB-702, College of Graduate Studies (2 cont. h.,8 students)
2004	Comprehensive Biochemistry, School of Dentistry, BMB-602 (5 cont. h., 56 students).
2003	Comprehensive Biochemistry, School of Dentistry, BMB-602 (7 cont. h., 51 students).
2002	Comprehensive Biochemistry, School of Dentistry, BMB-602 (9 cont. h., 48 students).
2001	Biotechnology Update Course, College of Graduate Studies (2 contact hours, 16 students).
2001	Introductory Biochemistry, Pharmacy GENBS 601(4 contact hours, 54 students).

MENTORING EXPERIENCE

Mentored post-doctoral fellows:

Baharan Fekry, Ph.D., 2011-Present
Inga Kramarenko, M.D., Ph.D., 2011-2012
Suchandra DebRoy, Ph.D., 2008-2010

Mentored graduate students:

Kyle Strickland, dissertation "The Cytosolic and Mitochondrial Pathways of 10-Formyltetrahydrofolate Metabolism", 2013, M.D., Ph.D.

Alexis Hoeferlin, dissertation "Regulation of Cell Death Pathways by Folate Metabolism", 2011, Ph.D.
Steve Reuland, dissertation "Structural-Functional Studies of the Folate Enzyme 10-Formyltetrahydrofolate Dehydrogenase Through Site-Directed Mutagenesis", 2006, Ph.D.

Advisory committee member for graduate student:

Kyle Strickland. Thesis titled "The Cytosolic and Mitochondrial Pathways of 10-Formyltetrahydrofolate Metabolism", 2011.

Mentored undergraduate students.
Medical University of South Carolina does not have undergraduate department, but organizes yearly a ten-week Undergraduate Summer Research Program. During this time students have several lectures each week with the rest of their time spent in the laboratories on specific research projects. Exposure to research environment is the goal of this program. No publications or degrees are expected.

Yuryi Malakhau, 2012
Justin Jones, 2006
Rosanna Robertson, 2005
Danielle Gordon, 2005
Lindsey Young, 2004

GRANT SUPPORT

Current

Grant title: "Ceramide Signaling in the Regulation of Cellular Response to Folate Stress".
Role: PI
Agency: NIH/CA193782-01
Funding period: 04/01/2015-03/31/2020
Total direct costs: $1,143,750

Grant title: "Mechanism for development of fatty liver in glycine N-methyltransferase (GNMT) knockout mice".
Role: Co-PI with R. Coleman
Agency: NRI Collaborative Projects
Funding period: 01/01/2015-06/31/2015
Total direct costs: $99,091

Grant title: "Characterization of the metabolic phenotype of the Aldh1l2 knockout mice".
Role: Co-PI with B. Bennett
Agency: NRI Collaborative projects
Funding period: 01/01/2015-06/31/2015
Total direct costs: $92, 532

Grant title: "Liver metabolism in CerS6 KO mice"".
Role: PI
Agency: NORC UNC-CH, 5100455
Funding period: 01/01/2015-12/31/2015

Total direct costs: $20,210
Past

Grant title: "Nuclear Function of Glycine N-methyltransferase".
Role: PI
Agency: NIH/1R21DK083744
Funding period: 07/01/2010-04/31/2013
Total direct costs: $275,000

Grant title: "Cross-Talk between sphingolipid and folate pathways".
Role: Co-PI
Agency: NIH/P20 RR017677, COBRE in Lipidomics and Pathobiology
Funding period: 07/01/2009-06/30/2012
Total direct costs: $259,500

Grant title: "Folate, homocysteine and methyl group metabolism".
Role: Co-PI
Agency: VUMC CA # 7160
Funding period: 01/02/2000-08/31/2003
Total direct costs: $143,387

Grant title: "Study of the GNMT Regulation in Cancer"
Role: PI
Agency: MUSC, ACS IRG
Funding period: 09/01/2000-08/31/2001
Total direct costs: $25,000

Grant title: "Study of the role of GNMT oligomerization in regulation of cellular methylation".
Role: PI
Agency: MUSC, University Research Council
Funding period: 02/07/2000-06/30/2001
Total direct costs: $16,965

SERVICE

2015	Member of NRI Faculty Search Committee
2015	Organizer of the Work Group Session "Individual Folate Requirements", 9th Congress of the International Society of Nutrigenetics and Nutrigenomics, Chapel Hill, NC
2014-present	NRI Seminar Committee
2014	Member of NRI Faculty Search Committee
2000-2013	Director, Nucleic Acid Analysis Facility
2006-2011	GCRC Advisory Committee
2000-2005	Biochemistry Graduate Committee
2000-2005	Biochemistry Seminar Committee