

CURRICULUM VITAE

NAME: Oleksandr O. Kapralov

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EDUCATION AND TRAINING

Graduate

1973-1979	Kiev State University University, Kiev, Ukraine	Master of Science degree, 1979	General and Molecular Genetics
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Post-Graduate 1981-1984

A.V. Palladin Institute of Biochemistry Ukrainian Academy of Sciences, Kiev, Ukraine	Candidate of Sciences , 1986	Biochemistry
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Doctoral

National Taras Shevchenko Kyiv University, Kiev, Ukraine	Doctor of Sciences, 2000	Biochemistry
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APPOINTMENTS AND POSITIONS

Academic

July 2012 till present	Research Assistant Professor	Department of Environmental and Occupational Health, Pittsburgh University
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November 2007- July 2012	Research Associate	Department of Environmental and Occupational Health, Pittsburgh University.
April 2003- November 2007	Postdoctoral Fellow	Department of Environmental and Occupational Health, Pittsburgh University
2002 -2003	Leading Research Scientist	Department of Biochemistry, The National Taras Shevchenko Kyiv University, Kiev, Ukraine
2000-2002	Leading Research Scientist	Research Institute of Physiology of the National Taras Shevchenko Kyiv University, Kiev, Ukraine
1994-2000	Senior Research Scientist	Research Institute of Physiology of the National Taras Shevchenko Kyiv University, Kiev, Ukraine
1992-1994	Senior Research Scientist	R.E.Kavetsky Institute for Experimental Pathology, Oncology and Radiobiology, Ukrainian Academy of Sciences, Kiev, Ukraine
1989-1992	Senior Research Scientist	The Institute of Bioorganic Chemistry Ukrainian Academy of Sciences, Kiev, Ukraine
1986-1989	Junior Research Scientist	A.V. Palladin Institute of Biochemistry Ukrainian Academy of Sciences, Kiev, Ukraine
1978-1986	Engineer	A.V. Palladin Institute of Biochemistry Ukrainian Academy of Sciences, Kiev, Ukraine

CERTIFICATION AND LICENSURE

Specialty Certification

2000	Certificate of the Senior Research Scientist	Higher Attestation Commission of Ukraine
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MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

1984-2003	Ukrainian Biochemical Society
2007-now	Society of Toxicology
2009-now	American Chemical Society

PROFESSIONAL ACTIVITIES

1. Teaching

a. Courses Taught

Years	Course Number: Title	Hours	Role in course
2002-2003	Seminar in general biochemistry and laboratory classes in biochemical methods	20	Primary/Coordinator

2. Research and Training

a. Grants and Contracts Received

Principal Investigator

Years Inclusive	Grant and/or Contract Number and Title	Source	Annual Direct Costs	% Effort
2009-2010	Pilot Project: "Prevention of radiation induced cell death by delivery of cardiolipin to mitochondria" (grant # - U19 AI068021-05)	NIH/NIAID	\$25,000	50%

PUBLICATIONS

Refereed Articles

1. Tiulenev V.I., **Kapralov A.A.**, Masyuk A.I. Turnover of chromatin proteins in rat liver during induction of RNA synthesis by electrostimulation of the hypothalamus // Biochemistry-Moscow. 1980; 45(9):1669-74. Russian.
2. Tiulenev V.I., **Kapralov A.A.**, Smerchinskaia L.S, Belik .IV. Effect of protein S-100 on phosphorylation of nuclear proteins of cells of rat brain and liver // Biochemistry-Moscow. 1983; 48(5):827-32. Russian.

3. **Kapralov A.A.**, Smerchinskaja L.S., Belik Ya.V., Tjulenev W.I. Intranuclear localization of neurospecific S-100 protein // *Neurochemistry (Erevan)*. 1983; 2(1): 26-33. Russian.
4. Tiulenev V.I., **Kapralov A.A.**, Zheljabovskaja Influences of hypothalamuse's electrostimulation and cAMP on the proteins phosphorylation and RNA-polymerases activities in rat liver nuclei // *Docl. of Acad. Sci Ukr. SSR p.B.* 1984; N3:79-82. Russian.
5. Tiulenev V.I., **Kapralov A.A.**, Masiuk A.I. Effect of neuromediating and neuroblockading hormones on the RNA synthesis in the rat liver nucleus // *Biochemistry-Moscow*. 1984; 49(8):1320-6. Russian.
6. Tiulenev V.I., **Kapralov A.A.** The synthesis and polyadenylation of RNA in rat liver nuclei after the electrostimulation of hypothalamuse // *Docl. of Acad. Sci Ukr. SSR p.B.* 1984, N10; 83-86. Russian.
7. **Kapralov A.A.**, Tiulenev V.i. et al. The action of S-100 protein on nuclear protein's phosphorylation in rat brain nuclei. Influence of Ca ions. *Neurochemistry (Erevan)*. 1985; 4(1):23-29. Russian.
8. **Kapralov A.A.**, Tiulenev V.I., Nasarenko V.I. The action of S-100 protein on RNA release from isolated nuclei of rat brain and ATPase activity of nuclear membranes // *Neurochemistry (Erevan)*. 1986; 5(2):219-220. Russian.
9. **Kapralov A.A.**, Tiulenev V.I., Belik Ya.V. Localization of neurospecific S-100 protein in brain nuclear pore-lamina and its action on phosphorylation of nuclear membran proteins // *Neurochemistry (Erevan)*. 1986; 5(4);365-370. Russian.
10. **Kapralov A.A.**, Tiulenev V.I. On the participation of S-100 protein in phosphorylation of brain nucleoplasm proteins and its presence in RNP // *Neurochemistry (Erevan)*. 1988; 7(3):382-388. Russian.
11. Donchenko G.V., Malen'kikh L.B., **Kapralov A.A.**, Baryk O.I., Mel'nik V.N. Role of the cytosolic factor in the interaction of [3H] alpha-tocopherol with rat liver nuclei // *Biochemistry-Moscow*. 1988; 53(12):2019-24. Russian.
12. Petrova G.V., **Kapralov A.A.**, Kuz'menko I.V., Donchenko G.V. Tocopherol-binding proteins in membranes of rat liver mitochondria // *Ukr Biokhim Zh.* 1990; 62(2):29-35. Russian.
13. Gubskii I.I., Levitskii E.L., Chabannyi V.N., Gol'dshtein N.B., **Kapralov A.A.**, Petrova G.V., Donchenko G.V., Volkov G.L., Litoshenko A.I. Changes in protein, lipid composition, DNA- and RNA- polymerase activity of the chromatin fraction and the nuclear matrix of the rat liver in hypovitaminosis E // *Ukr Biokhim Zh.* 1990; 62(6):22-30. Russian.
14. Petrova G.V., **Kapralov A.A.**, Donchenko G.V. About the presence of tocopherol binding proteins in rat liver nuclear membrane // *Biomembranes (Moscow)*. 1991; 8(10):1039-1046. Russian.

15. Petrova G.V., **Kapralov A.A.**, Donchenko G.V. Effect of vitamin E on transcription in isolated nuclei and rat liver chromatin in normal status and in E-hypovitaminosis // Biochemistry-Moscow. 1991;56(11):2052-9. Russian.
16. Petrova G.V., **Kapralov A.A.**, Donchenko G.V. Incorporation of [3H]alpha-tocopherol into isolated nuclei and its binding by rat liver chromatin // Ukr Biokhim Zh. 1992 ;64(2):72-9. Russian.
17. Ivanov A.P., **Kapralov A.A.**, Baryk O.I., Gubchenko S.V. Effect of brain cytosol proteins of embryonal and adult animals on RNA-polymerase activity of isolated brain nuclei // Ukr Biokhim Zh. 1992;64(5):31-7. Russian.
18. **Kapralov A.A.**, Donchenko G.V., Petrova G.V. Chromatin proteins binding vitamin E. Ukr Biokhim Zh. 1994;66(1):83-9. Russian.
19. Petrova G.V., **Kapralov A.A.**, Izhokina I.A., Donchenko G.V. Effect of alpha-tocopherol and ubiquinone on mitochondrial RNA polymerase activity. The role of tocopherol-binding proteins // Biochemistry-Moscow. 1994;59(4):575-81. Russian.
20. Donchenko G.V., Petrova G.V., **Kapralov A.A.** Effect of alpha-tocopherol and nuclear tocopherol-binding proteins on DNA-polymerase activity of isolated nuclei and nuclear matrix // Ukr Biokhim Zh.1996 ;68(6):18-23. Russian.
21. Masyuk A.I., **Kapralov A.A.**, Dolgova E.N. The action of bile acids on RNA-polymerase activity in isolated rat liver nuclei // Ukr.Physiol. J. 1996, N6: 564-573. Russian.
22. **Kapralov A.A.**, Fedorchuk A.G., Masyuk A.I., Petrova G.V., Donchenko G.V. The production of superoxide by neutrophils of human blood under the action of tocopherol//Immunology (Moscow)1997;N6:15-18. Russian
23. **Kapralov A.A.**, Petrova G.V., Vasilieva S.M., Donchenko G.V. Tocopherol modulates the effects of A23187, verapamil, and phorbol myristate acetate on RNA-polymerase activity of isolated rat liver nuclei // Biochemistry-Moscow. 1997;62(7):694-646. Russian.
24. **Kapralov A.A.** The action of vitamin E on RNA and DNA-polymerase activity of rat liver mitochondria. The role of Ca²⁺ ions and proteinkinase C//Biopolymers and Cells (Kiev),1997;13(4):269-273. Russian.
25. **Kapralov A.A.** Effect of ionophore A23187 and verapamil on RNA and DNA polymerase activity in rat liver nuclei // Ukr Biokhim Zh.1997;69(4):25-29. Russian.
26. **Kapralov A.A.** Effect of alpha-tocopherol on the respiratory burst of neutrophils, blast transformation of lymphocytes, and activity of human natural killer cells in blood // Ukr Biokhim Zh.199870(2):46-53. Russian.

27. **Kapralov A.A.** Role of Ca ions and protein kinase C in the action of vitamin E on respiratory burst of neutrophils and blast transformation of lymphocytes // Ukr Biokhim Zh. 1998;70(5):64-68. Russian.
28. Petrova G.V., **Kapralov A.A.**, Donchenko G.V. Comparative study of the effect of alpha-tocopherol, its synthetic metabolite and ionol on dexamethasone-induced apoptosis in rat thymocytes // Ukr Biokhim Zh. 2003;75(1):78-84. Russian.
29. Hryniuk I.I., Korniiichuk H.M., **Kapralov O.O.**, Matyshevs'ka O.P. Changes of chromatin structure state in thymocytes at the early stage of apoptosis induced by hydrogen peroxide and radiation // Ukr Biokhim Zh. 2004;76(5):90-5. Russian.
30. Kagan, V. E., Tyurin, V. A., Jiang, J., Tyrina, Y. Y., Ritov, V. B., Amoscato, A. A., Osipov, A. N., Belikova, N. A., **Kapralov, A. A.**, Kini, V., Vlasova, I. I., Zhao, Q., Zou, M., Di, P., Svistunenko, D. A., Kurnikov, I. V., and Borisenko, G. G. Cytochrome c acts as a cardiolipin oxygenase required for release of proapoptotic factors // Nat Chem Biol. 2005 1(4): 223-232.
31. Vlasova I.I., Tyurin V.A., **Kapralov A.A.**, Kurnikov I.V., Osipov A.N., Potapovich M.V., Stoyanovsky D.A., Kagan V.E. Nitric oxide inhibits peroxidase activity of cytochrome c-cardiolipin complex and blocks cardiolipin oxidation // J Biol Chem. 2006;281(21):14554-62.
32. Belikova N.A., Vladimirov Y.A., Osipov A.N., **Kapralov A.A.**, Tyurin V.A., Potapovich M.V., Basova L.V., Peterson J., Kurnikov I.V., Kagan V.E. Peroxidase activity and structural transitions of cytochrome c bound to cardiolipin-containing membranes // Biochemistry. 2006;45(15):4998-5009
33. Tyurina Y.Y., Kini V., Tyurin V.A., Vlasova I.I., Jiang J., **Kapralov A.A.**, Belikova N.A., Yalowich J.C., Kurnikov I.V., Kagan V.E. Mechanisms of cardiolipin oxidation by cytochrome c: relevance to pro- and antiapoptotic functions of etoposide // Mol Pharmacol. 2006;70(2):706-717.
34. Tyurina Y.Y., **Kapralov A.A.**, Jiang J., Borisenko G.G., Potapovich A.I., Sorokin A., Kochanek P.M., Graham S.H., Schor N.F., Kagan V.E. Oxidation and cytotoxicity of 6-OHDA are mediated by reactive intermediates of COX-2 overexpressed in PC12 cells // Brain Res. 2006;1093(1):71-82.
35. Tyurin V.A., Tyurina Y.Y., Osipov A.N., Belikova N.A., Basova L.V., **Kapralov A.A.**, Bayir H., Kagan V.E. Interactions of cardiolipin and lyso-cardiolipins with cytochrome c and tBid: conflict or assistance in apoptosis // Cell Death Differ. 2007;14(4):872-875.
36. **Kapralov A.A.**, Kurnikov I.V., Vlasova I.I., Belikova N.A., Tyurin V.A., Basova L.V., Zhao Q., Tyurina Y.Y., Jiang J., Bayir H., Vladimirov Y.A., Kagan V.E. The Hierarchy of Structural Transitions Induced in Cytochrome c by Anionic Phospholipids Determines Its Peroxidase Activation and Selective Peroxidation during Apoptosis in Cells // Biochemistry. 2007;46(49):14232-14244.

37. Stoyanovsky D.A., Vlasova I.I., Belikova N.A., **Kapralov A.A.**, Tyurin V., Greenberger J.S., Kagan V.E. Activation of NO donors in mitochondria: peroxidase metabolism of (2-hydroxyamino-vinyl)-triphenyl-phosphonium by cytochrome c releases NO and protects cells against apoptosis // *FEBS Lett.* 2008;582(5):725-728.
38. Allen B.L., Kichambare P.D., Gou P., Vlasova I.I., **Kapralov A.A.**, Konduru N., Kagan V.E., Star A. Biodegradation of single-walled carbon nanotubes through enzymatic catalysis // *Nano Lett.* 2008;8(11):3899-3903
39. Borisenko G.G., **Kapralov A.A.**, Tyurin V.A., Maeda A., Stoyanovsky D.A., Kagan V.E. Molecular design of new inhibitors of peroxidase activity of cytochrome c/cardiolipin complexes: fluorescent oxadiazole-derivatized cardiolipin // *Biochemistry.* 2008;47(51):13699-710.
40. Godoy L.C., Muñoz-Pinedo C., Castro L., Cardaci S., Schonhoff C.M., King M., Tórtora V., Marín M., Miao Q., Jiang J.F., **Kapralov A.**, Jemmerson R., Silkstone G.G., Patel J.N., Evans J.E., Wilson M.T., Green D.R., Kagan V.E., Radi R., Mannick J.B. Disruption of the M80-Fe ligation stimulates the translocation of cytochrome c to the cytoplasm and nucleus in nonapoptotic cells // *Proc Natl Acad Sci U S A.* 2009;106(8):2653-8
41. Bayir H., **Kapralov A.A.**, Jiang J., Huang Z., Tyurina Y.Y., Tyurin V.A., Zhao Q., Belikova N.A., Vlasova I.I., Maeda A., Zhu J., Na H.M., Mastroberardino P.G., Sparvero L.J., Amoscato A.A., Chu C.T., Greenamyre J.T., Kagan V.E. Peroxidase Mechanism of Lipid-dependent Cross-linking of Synuclein with Cytochrome c: Protection against apoptosis versus delayed oxidative stress in Parkinson disease // *J Biol Chem.* 2009;284(23):15951-15969.
42. **Kapralov A.A.**, Vlasova I.I., Feng W., Maeda A., Walson K., Tyurin V.A., Huang Z., Aneja R.K., Carcillo J., Bayir H., Kagan V.E. Peroxidase activity of hemoglobin-haptoglobin complexes: covalent aggregation and oxidative stress in plasma and macrophages // *J Biol Chem.* 2009;284(44):30395-407.
43. Kagan V.E., Konduru N.V., Feng W., Allen B.L., Conroy J., Volkov Y., Vlasova I.I., Belikova N.A., Yanamala N., **Kapralov A.**, Tyurina Y.Y., Shi J, Kisin E.R., Murray A.R., Franks J., Stolz D., Gou P., Klein-Seetharaman J., Fadeel B., Star A., Shvedova A.A. Carbon nanotubes degraded by neutrophil myeloperoxidase induce less pulmonary inflammation // *Nat Nanotechnol.* 2010;5(5):354-9.
44. Stoyanovsky DA, **Kapralov A**, Huang Z, Maeda A, Osipov A, Hsia CJ, Ma L, Kochanek PM, Bayr H, Kagan VE. Unusual peroxidase activity of polynitroxylated pegylated hemoglobin: Elimination of H₂O₂ coupled with intramolecular oxidation of nitroxides. *Biochem Biophys Res Commun.* 2010;399(2):139-43.
45. Kotchey GP, Allen BL, Vedala H, Yanamala N, **Kapralov AA**, Tyurina YY, Klein-Seetharaman J, Kagan VE, Star A. The enzymatic oxidation of graphene oxide. *ACS Nano.* 2011;5(3):2098-108.

46. **Kapralov** AA, Yanamala N, Tyurina YY, Castro L, Samhan-Arias A, Vladimirov YA, Maeda A, Weitz AA, Peterson J, Mylnikov D, Demicheli V, Tortora V, Klein-Seetharaman J, Radi R, Kagan VE. Topography of tyrosine residues and their involvement in peroxidation of polyunsaturated cardiolipin in cytochrome c/cardiolipin peroxidase complexes. *Biochim Biophys Acta*. 2011;1808(9):2147-55.
47. Atkinson J, **Kapralov** AA, Yanamala N, Tyurina YY, Amoscato AA, Pearce L, Peterson J, Huang Z, Jiang J, Samhan-Arias AK, Maeda A, Feng W, Wasserloos K, Belikova NA, Tyurin VA, Wang H, Fletcher J, Wang Y, Vlasova II, Klein-Seetharaman J, Stoyanovsky DA, Bayır H, Pitt BR, Epperly MW, Greenberger JS, Kagan VE. A mitochondria-targeted inhibitor of cytochrome c peroxidase mitigates radiation-induced death. *Nat Commun*. 2011;2:497.
48. Midwinter RG, Maghzal GJ, Dennis JM, Wu BJ, Cai H, **Kapralov** AA, Belikova NA, Tyurina YY, Dong LF, Khachigian L, Neuzil J, Kagan VE, Stocker R. Succinobucol induces apoptosis in vascular smooth muscle cells. *Free Radic Biol Med*. 2012;52(5):871-9.
49. **Kapralov** AA, Feng WH, Amoscato AA, Yanamala N, Balasubramanian K, Winnica DE, Kisin ER, Kotchey GP, Gou P, Sparvero LJ, Ray P, Mallampalli RK, Klein-Seetharaman J, Fadeel B, Star A, Shvedova AA, Kagan VE. Adsorption of surfactant lipids by single-walled carbon nanotubes in mouse lung upon pharyngeal aspiration. *ACS Nano*. 2012 May 22;6(5):4147-56.
50. Andón FT, **Kapralov** AA, Yanamala N, Feng W, Baygan A, Chambers BJ, Hultenby K, Ye F, Toprak MS, Brandner BD, Fornara A, Klein-Seetharaman J, Kotchey GP, Star A, Shvedova AA, Fadeel B, Kagan VE. Biodegradation of Single-Walled Carbon Nanotubes by Eosinophil Peroxidase. *Small*. 2013 doi: 10.1002/sml.201202508. [Epub ahead of print]
51. Kotchey GP, Gaugler JA, **Kapralov** AA, Kagan VE, Star A. Effect of antioxidants on enzyme-catalysed biodegradation of carbon nanotubes. *J Mater Chem B Mater Biol Med*. 2013;1(3):302-309.
52. Tyurina YY, Winnica DE, Kapralova VI, **Kapralov** AA, Tyurin VA, Kagan VE. LC/MS characterization of rotenone induced cardiolipin oxidation in human lymphocytes: Implications for mitochondrial dysfunction associated with Parkinson's disease. *Mol Nutr Food Res*. 2013 May 3: 1410-22
53. Chu CT, Ji J, Dagda RK, Jiang JF, Tyurina YY, **Kapralov** AA, Tyurin VA, Yanamala N, Shrivastava IH, Mohammadyani D, Qiang Wang KZ, Zhu J, Klein-Seetharaman J, Balasubramanian K, Amoscato AA, Borisenko G, Huang Z, Gusdon AM, Cheikhi A, Steer EK, Wang R, Baty C, Watkins S, Bahar I, Bayır H, Kagan VE. Cardiolipin externalization to the outer mitochondrial membrane acts as an elimination signal for mitophagy in neuronal cells. *Nat Cell Biol*. 2013 Oct;15(10):1197-205.
54. Rajagopal BS, Edzuma AN, Hough MA, Blundell KL, Kagan VE, Kapralov AA, Fraser LA, Butt JN, Silkstone GG, Wilson MT, Svistunenko DA, Worrall JA. The hydrogen-peroxide-induced radical behaviour in human cytochrome c-phospholipid complexes: implications for

the enhanced pro-apoptotic activity of the G41S mutant. *Biochem J.* 2013 Dec 15;456 (3):441-52.

55. Tyurin VA, Balasubramanian K, Winnica D, Tyurina YY, Vikulina AS, He RR, **Kapralov AA**, Macphee CH, Kagan VE. Oxidatively modified phosphatidylserines on the surface of apoptotic cells are essential phagocytic 'eat-me' signals: cleavage and inhibition of phagocytosis by Lp-PLA2. *Cell Death Differ.* 2014 May;21(5):825-35.
56. Jiang J, Bakan A, **Kapralov AA**, Ishara Silva K, Huang Z, Amoscato AA, Peterson J, Krishna Garapati V, Saxena S, Bayir H, Atkinson J, Bahar I, Kagan VE. Designing inhibitors of cytochrome c/cardiolipin peroxidase complexes: mitochondria-targeted imidazole-substituted fatty acids. *Free Radic Biol Med.* 2014 Jun;71:221-30.
57. Tyurina YY, Poloyac SM, Tyurin VA, **Kapralov AA**, Jiang J, Anthonymuthu TS, Kapralova VI, Vikulina AS, Jung MY, Epperly MW, Mohammadyani D, Klein-Seetharaman J, Jackson TC, Kochanek PM, Pitt BR, Greenberger JS, Vladimirov YA, Bayir H, Kagan VE. A mitochondrial pathway for biosynthesis of lipid mediators. *Nat Chem.* 2014 Jun;6(6):542-52.
58. Kagan VE, **Kapralov AA**, St Croix CM, Watkins SC, Kisin ER, Kotchey GP, Balasubramanian K, Vlasova II, Yu J, Kim K, Seo W, Mallampalli RK, Star A, Shvedova AA. Lung macrophages "digest" carbon nanotubes using a superoxide/peroxynitrite oxidative pathway. *ACS Nano.* 2014 Jun 24;8(6):5610-21
59. Yanamala N, **Kapralov AA**, Djukic M, Peterson J, Mao G, Klein-Seetharaman J, Stoyanovsky DA, Stursa J, Neuzil J, Kagan VE. Structural re-arrangement and peroxidase activation of cytochrome c by anionic analogues of vitamin E, tocopherol succinate and tocopherol phosphate. *J Biol Chem.* 2014 Nov 21;289(47):32488-98.
60. Zhao Y, Burkert SC, Tang Y, Sorescu DC, **Kapralov AA**, Shurin GV, Shurin MR, Kagan VE, Star A. Nano-gold corking and enzymatic uncorking of carbon nanotube cups. *J Am Chem Soc.* 2015 Jan 21;137(2):675-84.
61. Seo W, **Kapralov AA**, Shurin GV, Shurin MR, Kagan VE, Star A. Payload drug vs. nanocarrier biodegradation by myeloperoxidase- and peroxynitrite-mediated oxidations: pharmacokinetic implications. *Nanoscale.* 2015 May 7;7(19):8689-94.
62. Bakan A, **Kapralov AA**, Bayir H, Hu F, Kagan VE, Bahar I. Inhibition of Peroxidase Activity of Cytochrome c: De Novo Compound Discovery and Validation. *Mol Pharmacol.* 2015; 88(3):421-7
63. Mao G, Qu F, St Croix CM, Tyurina YY, Planas-Iglesias J, Jiang J, Huang Z, Amoscato AA, Tyurin VA, **Kapralov AA**, Cheikhi A, Maguire J, Klein-Seetharaman J, Bayir H, Kagan VE. Mitochondrial Redox Opto-Lipidomics Reveals Mono-Oxygenated Cardiolipins as Pro-Apoptotic Death Signals. *ACS Chem Biol.* 2016 Feb 19;11(2):530-40.

64. Kagan VE, Jiang J, Huang Z, Tyurina YY, Desbourdes C, Cottet-Rousselle C, Dar HH, Verma M, Tyurin VA, **Kapralov AA**, Cheikhi A, Mao G, Stolz D, St Croix CM, Watkins S, Shen Z, Li Y, Greenberg ML, Tokarska-Schlattner M, Boissan M, Lacombe ML, Epanand RM, Chu CT, Mallampalli RK, Bayir H, Schlattner U. NDPK-D (NM23-H4)-mediated externalization of cardiolipin enables elimination of depolarized mitochondria by mitophagy. *Cell Death Differ.* 2016 Jan 8. doi: 10.1038/cdd.2015.160
65. Tejero J, **Kapralov AA**, Baumgartner MP, Sparacino-Watkins CE, Anthonymutu TS, Vlasova II, Camacho CJ, Gladwin MT, Bayir H, Kagan VE. Peroxidase activation of cytoglobin by anionic phospholipids: Mechanisms and consequences. *Biochim Biophys Acta.* 2016 May;1861(5):391-401
66. Mahapatra G, Varughese A, Ji Q, Lee I, Liu J, Vaishnav A, Sinkler C, **Kapralov AA**, Moraes CT, Sanderson TH, Stemmler TL, Grossman LI, Kagan VE, Brunzelle JS, Salomon AR, Edwards BF, Hüttemann M. Phosphorylation of Cytochrome c Threonine 28 Regulates Electron Transport Chain Activity in Kidney: IMPLICATIONS FOR AMP KINASE. *J Biol Chem.* 2017;292(1):64-79.
67. Kagan VE, Mao G, Qu F, Angeli JP, Doll S, Croix CS, Dar HH, Liu B, Tyurin VA, Ritov VB, **Kapralov AA**, Amoscato AA, Jiang J, Anthonymuthu T, Mohammadyani D, Yang Q, Proneth B, Klein-Seetharaman J, Watkins S, Bahar I, Greenberger J, Mallampalli RK, Stockwell BR, Tyurina YY, Conrad M, Bayir H. Oxidized arachidonic and adrenic PEs navigate cells to ferroptosis. *Nat Chem Biol.* 2017, (1):81-90.
68. Chiu CF, Dar HH, **Kapralov AA**, Robinson RAS, Kagan VE, Star A. Nanoemitters and innate immunity: the role of surfactants and bio-coronas in myeloperoxidase-catalyzed oxidation of pristine single-walled carbon nanotubes. *Nanoscale.* 2017;9(18):5948-5956
69. Wenzel SE, Tyurina YY, Zhao J, St Croix CM, Dar HH, Mao G, Tyurin VA, Anthonymuthu TS, **Kapralov AA**, Amoscato AA, Mikulska-Ruminska K, Shrivastava IH, Kenny EM, Yang Q, Rosenbaum JC, Sparvero LJ, Emlet DR, Wen X, Minami Y, Qu F, Watkins SC, Holman TR, VanDemark AP, Kellum JA, Bahar I, Bayir H, Kagan VE. PEBP1 Wardens Ferroptosis by Enabling Lipoxigenase Generation of Lipid Death Signals. *Cell.* 2017;171, (3):628-641
70. Veglia F, Tyurin VA, Mohammadyani D, Blasi M, Duperret EK, Donthireddy L, Hashimoto A, **Kapralov A**, Amoscato A, Angelini R, Patel S, Alicea-Torres K, Weiner D, Murphy ME, Klein-Seetharaman J, Celis E, Kagan VE, Gabrilovich DI. Lipid bodies containing oxidatively truncated lipids block antigen cross-presentation by dendritic cells in cancer. *Nat Commun.* 2017, 8(1):2122.
71. Mohammadyani D, Yanamala N, Samhan-Arias AK, **Kapralov AA**, Stepanov G, Nuar N, Planas-Iglesias J, Sanghera N, Kagan VE, Klein-Seetharaman J. Structural characterization of cardiolipin-driven activation of cytochrome c into a peroxidase and membrane perturbation. *Biochim Biophys Acta.* 2018,1860(5):1057-1068.

Review Articles

1. **Kapralov A.A.**, Petrova G.V., Donchenco G.V. Physico-chemical properties and biological role of α -tocopherol binding protein // *Successes of modern biology (Moscow)*. 1993;113(2):313-326.
2. Tiulenev V.I., **Kapralov A.A.**, Belik Ya.V. Role of S-100 protein in the function of brain cell nuclei // *Ukr Biokhim Zh.* 1996;68(3):3-13. Russian.
3. **Kapralov A.A.**, Petrova G.V., Donchenko G.V. The mechanisms of action of tocopherol on cell function. Oxidative and non antioxidative mechanisms // *Successes of modern (Moscow)* 2003;12:867-915. Russian.
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