

Curriculum Vitae

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Personal Details

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Position

Professor of Structural Biology of Membrane Proteins at Institute of Life Sciences Department of Biological Chemistry

Since 2009 head of the Authority for Research and Development at The Hebrew University of Jerusalem.

Field of Interest

Mechanism of Na⁺/H⁺ antiporters.

SARS coronavirus membrane proteins.

Structure and function of viral ion channels.

FTIR methods development.

Structural elucidation of membrane proteins.

Factors governing the folding of membrane proteins.

Improving prediction of transmembrane proteins.

Molecular dynamics simulations of membrane proteins.

Publications

2015

88. Enzyme mediated encapsulation of gold nanoparticles by polyaniline nanoshell. Sfez, R., Natan, E., Bardavid, Y., Ikbali, M., Arbeli, E., Arkin, I.T., Popov, I & Yitzchaik, S. Journal of Self-Assembly and Molecular Electronics in press.

87. Mechanistic studies of the apical sodium-dependent bile acid transporter. Alhadeff, R., Ganoth, A. & Arkin, I.T. *Proteins* in press.

2014

86. Bacteria-based analysis of HIV-1 Vpu channel activity. Taube, R., Alhadeff, R., Assa, D., Krugliak, M. & Arkin, I.T. *PLoS ONE* 10:e105387.

85. Use of isotope-edited FTIR to derive a backbone structure of a transmembrane protein. Manor, J., Arbely, E., Beerlink, A., Akkawi, M. & Arkin, I.T. *J Phys Chem Lett* 5:2573–2579. Supplementary data.

84. Strength of a bifurcated H bond. Feldblum, E.S. & Arkin, I.T. *Proc Nat Acad Sci* 111:4085-90.

83. Computational and experimental analysis of drug binding to the Influenza M2 channel. Alhadeff, R., Assa, D., Astrahan, P., Krugliak, M. & Arkin, I.T. *Biochim Biophys Acta Biomemb* 1838:1068-73.

2013

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81. Editorial Preface: FTIR in membrane proteins and peptide studies. Arkin, I.T. *Biochim Biophys Acta* 1828:2255.

80. Gaining insight into membrane protein structure using isotope-edited FTIR. Manor, J. & Arkin, I.T. *Biochim Biophys Acta* 1828:2256-64.

2012

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2011

78. Characterization of the Na⁺/H⁺ antiporter from *Yersinia pestis*. Ganoth, A., Alhadeff, R., Kohen, D. & Arkin, I.T. *PLoS ONE* 6:e26115 Supplementary figure S1.

77. Promiscuous binding in a selective protein: the bacterial Na⁺/H⁺ antiporter. Alhadeff, R., Ganoth, A., Krugliak, M. & Arkin, I.T. *PLoS ONE* 6:e25182 Supplementary figure S1, Supplementary figure S2, Supplementary figure S3.

76. Computational study of the Na⁺/H⁺ antiporter from *Vibrio parahaemolyticus*. Ganoth, A., Alhadeff, R. & Arkin, I.T. *J Mol Mod* 17:1877-90.

75. How do aminoadamantanes block the influenza M2 channel and how does resistance develop? Leonov, H., Astrahan, P., Krugliak, M. & Arkin, I.T. *J Amer Chem Soc* 133:9903-11. Supplementary information.

74. Science, music, literature and the one-hit wonder connection. Arkin, I.T. *Research Trends* 22:9-10.

73. Quantitative analysis of Influenza M2 channel blockers. Astrahan, P., Flitman-Tene, R., Bennett, E.R., Krugliak, M., Gilon, C. & Arkin, I.T. *Biochem Biophys Acta Biomemb* 1808:394-8.

72. Resistance characteristics of Influenza to amino-adamantyls. Astrahan, P. & Arkin, I.T. *Biochem Biophys Acta Biomem* 1808:547-53.

2010

71. pH Driven Helix Rotations in the Influenza M2 H⁺ Channel: A Potential Gating Mechanism. Leonov, H. & Arkin, I.T. *Eur Biophys J* 39:1043-49.

2009

70. Structure and Dynamics of the Influenza A M2 Channel: a Comparison of Three Structure. Leonov, H. & Arkin, I.T. *J Mol Mod* 15:1317-28.

69. A model for the interaction between NF- κ B and ASPP2 suggests an I- κ like mechanism. Benyamini, H., Leonov, H., Rotem, S., Katz, C., Arkin, I.T. & Friedler, F. *Proteins* 77:602-11.

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2008

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65. Microsecond Molecular Dynamics Simulation Shows Effect of Slow Loop Dynamics on Backbone Amide Order Parameters of Proteins. Maragakis, P., Lindorff-Larsen, K., Eastwood, M.P., Dror, R.O., Klepeis, J.L., Arkin, I.T., Jensen, M.Ø., Xu, H., Trbovic, N., Friesner, R.A., Iii, A.G. & Shaw, D.E. 2008 *J Phys Chem B*. 112(19): 6155-6158.

2007

64. Mechanism of Na⁺/H⁺ antiporting. Arkin, I.T., Xu, H., Jensen, M.Ø., Arbely, E., Bennett, E.R., Bowers, K.J., Chow, E., Dror, R.O., Eastwood, M.P., Flitman-Tene, R., Gregersen, B.A., Klepeis, J.L., Kolossváry, I., Shan, Y. & Shaw, D.E. 2007 *Science* 317(5839): 799-803. Supporting online material. News and views 2007 *Nature Chem Biol* 3(10): 609-610.

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58. Picoseconds dynamics of a membrane protein revealed by 2D IR. Mukherjee, P., Kass, I., Arkin, I.T. & Zanni, M.T. 2006 *Proc Nat Acad Sci* 103(10):3528-33.
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