

Professor Hagai Ginsburg

LIST OF PUBLICATIONS

1. Ginsburg, H. and Mayer, A.M. (1964) Electrophoretic behaviour of Chlorella species. *Phyton* 21, 11-13.
2. Mayer, A.M., Zuri, U., Shain, Y. and Ginsburg, H. (1964). Problems of design and ecological considerations in mass culture of algae. *Biotech. Bioeng.* 6, 173-190.
3. Ginsburg, H. and Ginzburg, B.-Z. (1970) Radial water and solute flows in roots of Zea mays. I. Water flow. *J. Exp. Bot.* 21, 580-592.
4. Ginsburg, H. and Ginzburg, B.-Z. (1970) Radial water and solute flows in roots of Zea mays II. Ion flows across root cortex. *J. Exp. Bot.* 21, 593-604.
5. Ginsburg, H. and Ginzburg, B.-Z. (1971) Evidence for active water transport in corn root preparation. *J. Membr. Biol.* 4, 29-41.
6. Ginsburg, H. and Ginzburg, B.-Z. (1971) Radial water and solute flows in roots of Zea mays III. Effect of temperature on THO and ion transport. *J. Exp. Bot.* 22, 337-341.
7. Ginsburg, H. (1971) Model for iso-osmotic water flow in plant roots. *J. Theor. Biol.* 32, 147-153.
8. Ginsburg, H. (1972) Analysis of plant root electropotentials. *J. Theor. Biol.* 37, 389-412.
9. Ginsburg, H. and Laties, G.G. (1973) Longitudinal electrical resistance of maize roots. *J. Exp. Bot.* 24, 1035-1040.
10. Ginsburg, H. and Ginzburg, B.-Z. (1974) Radial water and solute flows in roots of Zea mays. IV. Electrical potential profile across the root. *J. Exp. Bot.* 25, 28-35.
11. Ginsburg, H. and Stein, W.D. (1975) Zero-trans and infinite-cis uptake of galactose in human erythrocytes. *Biochim. Biophys. Acta*, 382, 353-368.
12. Ginsburg, H. and Ram, D. (1975) Zero-trans and equilibrium-exchange efflux and infinite-trans uptake of galactose in human erythrocytes. *Biochim. Biophys. Acta*, 382, 369-376.
13. Wolosin, J.M. and Ginsburg, H. (1975) The permeation of organic acids through lecithin bilayers: Resemblance to diffusion in polymers. *Biochim. Biophys. Acta* 389, 20-33.
14. Ginsburg, H. and Stark, G. (1976) Facilitated transport of di- and trinitrophenolate ions across lipid bilayer membranes. *Biochim. Biophys. Acta* 455:685-700.
15. Cabantchik, Z.I., Wolosin, J.M., Ginsburg, H. and Zemel, O. (1976) Structural and functional properties of the anion transport system isolated from human erythrocyte membranes. In: *Biochemistry of Membrane Transport*", FEBS Symposium No. 42, 345-382.
16. Wolosin, J.M., Ginsburg, H. and Cabantchik, Z.I. (1977) Functional characterization of anion transport system isolated from human erythrocyte membranes. *J. Biol. Chem.* 252:2419-2427.
17. Cabantchik, Z.I. and Ginsburg, H. (1977) Transport of uridine in human red blood cells. Demonstration of a simple carrier-mediated process. *J. Gen. Physiol.* 69:75-96.
18. Ginsburg, H. and Cabantchik, Z.I. (1978) On uridine transport in human red blood cells. *J. Gen. Physiol.* 70, 679-680.
19. Ginsburg, H. (1978) Galactose transport in human erythrocytes: The transport mechanism is resolved into two asymmetric antiparallel carriers. *Biochim. Biophys. Acta* 506:119-135.
20. Ginsburg, H. and Yeroushalmy, S. (1978) Effects of temperature on the transport of galactose in human erythrocytes. *J. Physiol. (London)* 282, 399-417.

21. Wolosin, J.M., Ginsburg, H., Lieb, W.R. and Stein, W.D. (1978) Diffusion within egg lecithin bilayers does resemble that within soft polymers. *J. Gen. Physiol.* 71:93-100.
22. Ginsburg, H., Tosteson, M.T. and Tosteson, D.C. (1978) Some effects of trinitroresolate and valinomycin on Na and K transport across thin lipid bilayer membranes: A steady-state analysis with simultaneous tracer and electrical measurements. *J. Membr. Biol.* 42, 153-168
23. Ginsburg, H. and Wolosin, J.M. (1978) Effects of uranyl ions on lecithin bilayer membranes. *Phys. Chem. Lipids* 23, 125-131.
24. Cabantchik, Z.I., Ginsburg, H. and Loyter, A. (1980) Methods for the isolation of the human erythrocyte anion transporter and its reconstitution into model membranes and plasma membranes of eukaryotic cells. *Ann. N.Y. Acad. Sci.* 341:444-454.
25. Beigel, M., Volsky, D.J., Ginsburg, H., Cabantchik, Z.I. and Loyter, A. (1980) Functional incorporation of the human erythrocyte chloride exchange system into plasma membranes of Friend erythroleukemic cells by Sendai virus induced cell fusion. *Exp. Cell Res.* 126, 448-453.
26. Razin, M. and Ginsburg, H. (1980) Fusion of liposomes with plasma lipid bilayers. *Biochim. Biophys. Acta* 598, 285-292.
27. Yayon, A. and Ginsburg, H. (1980) A method for the measurement of chloroquine uptake in erythrocytes. *Annal. Biochem.* 107, 332-336.
28. Eidelman, O., Zangwill, M., Razin, M., Ginsburg, H. and Cabantchik, Z.I. (1980) The anion transfer system of erythrocyte membranes: NBD-taurine, a fluorescent substrate analog of the system. *Biochem. J.* 195, 503-513.
29. Ginsburg, H., Kutner, S., Krugliak, M. and Cabantchik, Z.I. (1981) Inhibition of *P. falciparum* growth in vitro by specific inhibitors of red blood cell anion transport. In: *Biochemistry of Parasites* (G.M. Slutzky, H. Iseroff and C.M. Greenblatt, eds.) Pergamon Press, pp. 85-96.
30. Ginsburg, H., O'Connor, S.E. and Grisham, C.M. (1981) Electron paramagnetic resonance evidence for function-related conformational changes in the anion transport protein of human erythrocytes. *Eur. J. Biochem.* 114:533-538.
31. Yayon, A. and Ginsburg, H. (1982) The transport of chloroquine across human erythrocyte membranes is mediated by a simple symmetric carrier. *Biochim. Biophys. Acta* 686, 197-203.
32. Kutner, S., Baruch, D., Ginsburg, H. and Cabantchik, Z.I. (1982) Alterations in membrane permeability in malaria-infected erythrocytes are related to the growth stage of the parasite. *Biochim Biophys. Acta* 687:113-117.
33. Blauer, G. and Ginsburg, H. (1982) Complexes of antimalarial drugs with ferriprotoporphyrin IX. *Biochem. Int.* 5:519-523.
34. Cabantchik, Z.I., Kutner, S., Krugliak, M. and Ginsburg, H. (1983) Anion transport inhibitors as suppressors of *Plasmodium falciparum* growth in in vitro cultures. *Molec. Pharmacol.* 23:92-99.
35. Kutner, S., Ginsburg, H. and Cabantchik, Z.I. (1983) Permselectivity changes in malaria (*Plasmodium falciparum*) infected human red blood cell membranes. *J. Cell. Physiol.* 114:245-251.
36. Breuer, W.V., Ginsburg, H. and Cabantchik, Z.I. (1983) An assay of malaria parasite invasion into human erythrocytes: The effects of chemical and enzymatic modification of erythrocyte membrane. *Biochim. Biophys. Acta* 755:263-271.

37. Cabantchik, Z.I., Kutner, S., Krugliak, M. and Ginsburg, H. (1983) Anion transport inhibitors as suppressors of Plasmodium falciparum growth in in vitro cultures. *Molec. Pharmacol.* 23:92-99.
38. Ginsburg, H. and Krugliak, M. (1983) Uptake of L-tryptophan by erythrocytes infected with malaria parasites (Plasmodium falciparum). *Biochim. Biophys. Acta* 729:97-103.
39. Ginsburg, H., Krugliak, M., Eidelman, O. and Cabantchik, Z.I. (1983) New permeability pathways induced in membranes of Plasmodium falciparum infected erythrocytes. *Mol. Biochem. Parasitol.* 8:177-190.
40. Ginsburg, H. and Demel, R.A. (1983) The effect of ferriprotoporphyrin IX and chloroquine on phospholipid monolayers: Possible implications to antimalarial activity. *Biochim. Biophys. Acta* 732:316-319.
41. Breuer, W.V., Kahane, I., Baruch, D., Ginsburg, H. and Cabantchik, Z.I. (1983) The role of internal domains of glycophorin in Plasmodium falciparum invasion into human erythrocytes. *Infect. Immun.* 42:133-140.
42. Bauminger, E.R., Ginsburg, H., Ofer, S. and Yayon, A. (1983) Mössbauer studies of malaria. *Hyperf. Interact.* 15/16:885-888.
43. Yayon, A. and Ginsburg, H. (1983) Chloroquine inhibits the degradation of endocytic vesicles in human malaria parasites. *Cell Biol. Internat. Rep.* 7:895.
44. Yayon, A., Friedman, S. and Ginsburg, H. (1984) Plasmodium falciparum: Elimination of fungal and bacterial contaminations from in vitro cultures. *Ann. Trop. Med. Parasitol.* 78:167-168.
45. Blum, J.J. and Ginsburg, H. (1984) Absence of α -ketoglutarate dehydrogenase activity and presence of CO₂-fixing activity in Plasmodium falciparum grown in vitro. *J. Protozool.* 31:167-169.
46. Yayon, A., Timberg, R., Friedman, S. and Ginsburg, H. (1984) Effects of chloroquine on the feeding mechanism of the intraerythrocytic malarial parasite Plasmodium falciparum. *J. Protozool.* 31:367-372.
47. Yayon, A., Bauminger, E.R., Ofer, S. and Ginsburg, H. (1984) The malarial pigment in rat infected erythrocytes and its interaction with chloroquine. A Mössbauer Effect study. *J. Biol. Chem.* 259:8163-8167.
48. Blum, J.J., Yayon, A., Friedman, S. and Ginsburg, H. (1984) Effect of mitochondrial protein synthesis inhibitors on the incorporation of isoleucine into Plasmodium falciparum in vitro. *J. Protozool.* 31:475-479.
49. Breuer, W.V., Ginsburg, H. and Cabantchik, Z.I. (1984) Hydrophobic interactions in Plasmodium falciparum invasion into human erythrocytes. *Mol. Biochem. Parasitol.* 12:125-138.
50. Yayon, A., Cabantchik, Z.I. and Ginsburg, H. (1984) Identification of the acidic compartment of Plasmodium falciparum infected human erythrocytes as the target of the antimalarial drug chloroquine. *EMBO J.* 3:2695-2700.
51. Ginsburg, H. and Demel, R.A. (1984) Interaction of hemin, antimalarial drugs and hemin-antimalarial complexes with phospholipid monolayers. *Chem. Phys. Lipids* 35:331-347.
52. Bar-Noy, S., Darmon, A., Ginsburg, H. and Cabantchik, Z.I. (1984) Orientation of transmembrane polypeptides as revealed by antibody quenching of fluorescence. *Biochim. Biophys. Acta* 778:612-614.
53. Gorodetsky, R., Fuks, Z., Sulkes, A., Ginsburg, H. and Weshler, Z. (1985) Correlation of red cell and plasma levels of zinc, copper, and iron, with evidence of metastatic spread in cancer patients. *Cancer* 55:779-787.

54. Ginsburg, H., Kutner, S., Krugliak, M. and Cabantchik, Z.I. (1985) Characterization of permeation pathways appearing in the host membrane of Plasmodium falciparum infected cells. *Mol. Biochem. Parasitol.* 14:313-322.
55. Yayon, A., Cabantchik, Z.I. and Ginsburg, H. (1985) Susceptibility of human malaria parasites to chloroquine is pH dependent. *Proc. Natl. Acad. Sci. USA* 82:2784-2788.
56. Divo, A.A., Geary, T.G., Jensen, J.B. and Ginsburg, H. (1985) The mitochondrion of Plasmodium falciparum visualized by rhodamine 123 fluorescence. *J. Protozool.* 32:442-446.
57. Gorodetsky, R., Fuks, Z., Peretz, T. and Ginsburg, H. (1985) Direct fluorometric determination of erythrocyte zinc and free protoporphyrins in health and disease. *Clin. Biochem.* 18:362-367.
58. Darmon, A., Bar-Noy, S., Ginsburg, H. and Cabantchik, Z.I. (1985) Oriented reconstitution of red cell membrane proteins and assessment of their transmembrane disposition by immunoquenching of fluorescence. *Biochim. Biophys. Acta* 817:238-248.
59. Kutner, S., Breuer, W.V., Ginsburg, H., Aley, S.B. and Cabantchik, Z.I. (1985) Characterization of permeation pathways in the plasma membrane of human erythrocytes infected with early stages of Plasmodium falciparum: Association with parasite development. *J. Cell. Physiol.* 125:521-527.
60. Ginsburg, H., Divo, A.A., Geary, T.G., Boland, M.T. and Jensen, J.B. (1986) Effects of mitochondrial inhibitors on intraerythrocytic Plasmodium falciparum in vitro cultures. *J. Protozool.* 33:121-125.
61. Ginsburg, H., Gorodetsky, R. and Krugliak, M. (1986) The status of zinc in malaria (Plasmodium falciparum) infected human red blood cells: Stage-dependent accumulation, compartmentation and the effect of dipicolinate. *Biochim. Biophys. Acta* 886:337-344.
62. Ginsburg, H., Handeli, S., Friedman, S., Gorodetsky, R. and Krugliak, M. (1986) Effects of red blood cell potassium and hypertonicity on the growth of Plasmodium falciparum in culture. *Zeitsch. Parasitenk.* 72:185-199.
63. Zarchin, S., Krugliak, M. and Ginsburg, H. (1986) Host cell digestion by intraerythrocytic malarial parasites is the primary target for quinoline-containing antimalarials. *Biochem. Pharmacol.* 35:2435-2442.
64. Geary, T.G., Jensen, J.B. and Ginsburg, H. (1986) Uptake of [³H]chloroquine by chloroquine-sensitive and chloroquine-resistant strains of Plasmodium falciparum: Lack of correlation of uptake and sensitivity. *Biochem. Pharmacol.* 35:3805-3812.
65. Geary, T.G., Bonanni, L.C., Jensen, J.B. and Ginsburg, H. (1986) Effect of combination of quinoline-containing antimalarials on Plasmodium falciparum in culture. *Ann. Trop. Med. Parasitol.* 80:285-291.
66. Ginsburg, H., Kutner, S., Zangwill, M. and Cabantchik, Z.I. (1986) Selectivity properties of pores induced in host erythrocyte membranes by Plasmodium falciparum: Effect of parasite maturation. *Biochim. Biophys. Acta.* 861:194-196.
67. Ginsburg, H. (1986) How and why does the malarial parasite permeabilize its host cell membrane? In: *Biomembranes. Basic and Medical Research.* G. Benga and J. Tager, eds. Springer Verlag, Berlin. pp. 189-203.
68. Kutner, S., Breuer, W.V., Ginsburg, H. and Cabantchik, Z.I. (1987) On the mode of action of phlorizin as an antimalarial agent in *in vitro* cultures of Plasmodium falciparum. *Biochem. Pharmacol.* 36:123-129.

69. Cabantchik, Z.I., Baruch, D., Keren-Zur, Y., Zangwill, M. and Ginsburg, H. (1987) The modulatory effect of membrane viscosity on structural and functional properties of the anion exchange protein of human erythrocytes. *Memb. Biochem.* 6:197-216.
70. Gorodetsky, R., Fuks, Z., Peretz, T. and Ginsburg, H. (1987) Elevation of erythrocyte zinc- and free-protoporphyrins with metastatic spread in cancer patients. *Eur. J. Cancer Clin. Oncol.* 22:1515-1521.
71. Benzaquen-Geffin, R. Milner, Y. and Ginsburg, H. (1987) Inhibition of malaria parasite invasion of human erythrocytes by a lymphocyte membrane polypeptide. *Infec. Immun.* 55:342-351.
72. Krugliak, M., Waldman, Z. and Ginsburg, H. (1987) Gentamicin and amikacin repress the growth of *Plasmodium falciparum* in culture, probably by inhibiting a parasite acid phospholipase. *Life Sci.* 40:1253-1257.
73. Ginsburg, H. and Stein, W.D. (1987) Biophysical analysis of novel transport pathways induced in red blood cell membranes. *J. Memb. Biol.* 96:1-10.
74. Ginsburg, H. and Geary, T.G. (1987) Current concepts and new ideas on the mechanism of action of quinoline-containing antimalarials. *Biochem. Pharmacol.* 36:1567-1576.
75. Ginsburg, H., Landau, I., Baccam, D. and Mazier, D. (1987) Fractionation of mouse malarious blood according to parasite developmental stage, using a Percoll-sorbitol gradient. *Ann. Parasitol. Hum. Comp.* 62:418-425.
76. Ginsburg, H. and Stein, W.D. (1987) New premeability pathways induced by the malarial parasite in the membrane of its host erythrocyte: Potential routes for targeting of drugs into infected cells. *Biosc. Rep.* 7:455-463.
77. Breuer, W.V., Kutner, S., Sylphen, J., Ginsburg, H. and Cabantchik, Z.I. (1987) Covalent modification of the permeability pathways induced in the human erythrocyte membrane by the malarial parasite *Plasmodium falciparum*. *J. Cell. Physiol.* 133:55-63.
78. Ginsburg, H., Landau, I. and Baccam, D. (1987) Effect of cholesterol-rich diet on the susceptibility of rodent malarial parasites to chloroquine chemotherapy. *Life Sci.* 42:7-10.
79. Ginsburg, H. and Krugliak, M. (1988) Effects of quinoline-containing antimalarials on the erythrocyte membrane and their significance to the antimalarial mode of action. *Biochem. Pharmacol.* 37:2013-2018.
80. Ginsburg, H. and Stein, W.D. (1988) Biophysical analysis of a novel transport pathway induced in red blood cell membranes by the malaria parasite. In: *Cellular Calcium and Phosphate Transport in Health and Disease*. F. Bronner, M. Peterlik, eds. Alan R. Liss Inc. New York. pp. 317-322.
81. Montalvo-Alvarez, A.M., Landau, I. Baccam, D., Chabaud, A.G. and Ginsburg, H. (1988) Experimental modifications of the circadian rhythm of *Plasmodium vinckeii petteri* following cryopreservation: Probable resistance of the merozoite to thawing. *C.R. Acad. Sci. III* 307:5-10.
82. Ginsburg, H. (1988) Calcium antagonists and chloroquine resistance in malaria. *Parasitol. Today* 4:209-211.
83. Kanaani, J. and Ginsburg, H. (1988) Compartment analysis of ATP in malaria-infected erythrocytes. *Biochem. Int.* 17:451-459.
84. Cabantchik, Z.I., Sylphen, J., Firestone, Krugliak, M., Nissan, E. and Ginsburg, H. (1989) Effects of lysosomotropic detergents on the human malarial parasite *Plasmodium falciparum* in in vitro cultures. *Biochem. Pharmacol.* 38:1271-1277.
85. Kanaani, J. and Ginsburg, H. (1989) Metabolic interconnection between the human malarial parasite *Plasmodium falciparum* and its host erythrocyte: Regulation of ATP

- levels by means of an adenylate translocator and adenylate kinase. *J. Biol. Chem.* 264:3194-3199.
- 86. Nissani, E. and Ginsburg, H. (1989) Protonophoric effects of antimalarial drugs and alkylamines in *Escherichia coli* membranes. *Biochim. Biophys. Acta.* 978:293-295.
 - 87. Ginsburg, H., Nissani, E. and Krugliak, M. (1989) Alkalinization of the food vacuole of malaria parasites by quinoline drugs and alkylamines is not correlated with their antimalarial activity. *Biochem. Pharmacol.* 38:2645-2654.
 - 88. Ginsburg, H. (1989) Drug resistance. *Eur. J. Clin. Pharmacol.* 36(Suppl):A12-A13.
 - 89. Ginsburg, H. (1989) Alterations caused by the intraerythrocytic malaria parasite in the permeability of its host cell membrane. *Comp. Biochem. Physiol.* 95A:31-39.
 - 90. Geary, T.G., Divo, A.A., Jensen, J.B., Zangwill, M. and Ginsburg, H. (1990) Kinetic modelling of the response of *Plasmodium falciparum* to chloroquine and its experimental testing in vitro. *Biochem. Pharmacol.* 40:685-691.
 - 91. Ginsburg, H. (1990) Chloroquine as intercalator: Should this hypothesis be revived? *Parasitol. Today,* 6:230.
 - 92. Ginsburg, H. (1990) Antimalarial drugs: Is the lysosomotropic hypothesis still valid? *Parasitol. Today,* 6:334-337.
 - 93. Ginsburg, H. (1990) Some reflections concerning host erythrocyte-malarial parasite interrelationships. *Blood Cells,* 16:225-235.
 - 94. Ginsburg, H. and Kanaani, J. (1990) Interconnection of the energy metabolism of malaria parasites and their host erythrocyte. *Trends in Biomembranes and Bioenergetics,* 1:111-117.
 - 95. Arese, P., Turrini, F. and Ginsburg, H. (1991) Phagocytosis of infected erythrocytes in malaria. Host defence mechanism or menace to the macrophage? *Parasitol. Today,* 7:25-28.
 - 96. Ginsburg, H. (1991) Is the multidrug resistant protein of the malaria parasite involved in drug resistance? In: *Biochemical Protozoology as a Basis for Drug Design.* Coombs, eds Taylor & Francis, London, pp. 424-435.
 - 97. Ginsburg, H. and Stein, W.D. (1991) Kinetic modelling of chloroquine uptake by malaria-infected erythrocytes: Assessment of the factors that may determine drug resistance. *Biochem. Pharmacol.* 41:1463-1470.
 - 98. Ginsburg, H. (1991) Enhancement of the antimalarial effect of chloroquine on drug resistant parasite strains - a critical examination of the reversal of multidrug resistance. *Exp. Parasitol.* 73:227-232.
 - 99. Cambie, G., Caillard, V., Beaut' Lafitte, A., Ginsburg, H., Chabaud, A. and Landau, I. (1991). Chronotherapy of malaria: identification of drug-sensitive stage of parasite and timing of drug delivery for improved therapy. *Ann. Parasitol. Hum. Comp.* 66:14-21.
 - 100. Krugliak, M. and Ginsburg, H. (1991) Studies on the antimalarial mode of action of quinoline-containing drugs: time-dependence and irreversibility of drug action, and interactions with compounds that alter the function of the parasite's food vacuole. *Life Sci.* 49:1213-1219.
 - 101. Kramer, R. and Ginsburg, H. (1991) Calcium transport and compartment analysis of free and exchangeable calcium in *Plasmodium falciparum*-infected red blood cells. *J. Protozool.* 38:594-601.
 - 102. Landau, I., Chabaud, A., Cambie, G. and Ginsburg, H. (1991) Chronotherapy of malaria - an approach to be considered. *Parasitol. Today.* 7:350-352.
 - 103. Kanaani, J. and Ginsburg, H. (1991) Transport of lactate in *Plasmodium falciparum*-infected erythrocytes. *J. Cell. Physiol.* 149:469-476.

104. Arese, P., Turrini, F., Bussolino, F., Lutz, H.U., Chiu, D., Zuo, L., Kuypers, F. and Ginsburg, H. (1991) Recognition signals for phagocytic removal of falciparum, malaria-infected and sickled erythrocytes. In: Red Blood Cell Aging. M. Magnani and A. De Flora, eds. pp. 317-327.
105. Ginsburg, H. and Krugliak, M. (1992) Quinoline-containing antimalarials - mode of action, drug resistance and its reversal. An update with unresolved puzzles. *Biochem. Pharmacol.* 43:63-70.
106. Hatin, I., Jambou, R., Ginsburg, H. and Jaureguierry, J. (1992) Single or multiple localization of the ADP/ATP transporter in the human malarial parasite *Plasmodium falciparum*. *Biochem. Pharmacol.* 43:71-75.
107. Kanaani, J. and Ginsburg, H. (1992) Effects of cinnamic acid derivatives on in vitro growth of *Plasmodium falciparum* and on the permeability of the membrane of malaria-infected cells. *Antimicrob. Agents Chemother.* 36:1102-1108.
108. Landau, I., Lepers, J.-P., Ringwald, P., Rabarison, P., Ginsburg, H. and Chabaud, A. (1992) Chronotherapy of malaria - improved efficacy of timed chloroquine treatment of patients with *Plasmodium falciparum* infections. *Trans. R. Soc. Trop. Med. Hyg.* 86:374-375.
109. Turrini, F., Ginsburg, H., Bussolino, F., Serra, M.V. and Arese, P. (1992) Phagocytosis of *Plasmodium falciparum*-infected human red blood cells by human monocytes: Involvement of immune and non-immune determinants and dependence on parasite developmental stage. *Blood* 80:801-808.
110. Schwarzer, E., Turrini, F., Ulliers, D., Giribaldi, G., Ginsburg, H. and Arese, P. (1992) Impairment of macrophage functions after ingestion of *Plasmodium falciparum*-infected erythrocytes or isolated malarial pigment. *J. Exp. Med.* 176:1033-1041.
111. Ginsburg, H., Nissan, E., Krugliak, M. and Williamson D.H. (1993) Selective toxicity to malaria parasites by non-intercalating DNA-binding ligands. *Mol. Biochem. Parasitol.* 58:7-16.
112. Bosia, A., Ghigo, D., Turrini, F., Nissan, E., Pescarmona, G.P. and Ginsburg, H. (1993) Kinetic characterization of Na⁺/H⁺ antiport of *Plasmodium falciparum* membrane. *J. Cell. Physiol.* 154:527-534.
113. Shalmiev G. and Ginsburg, H. (1993) The susceptibility of the malarial parasite *Plasmodium falciparum* to quinoline-containing drugs is correlated to the lipid composition of the infected erythrocyte membranes. *Biochem. Pharmacol.* 46:365-374.
114. Gabay, T. and Ginsburg, H. (1993) Hemoglobin denaturation and iron release in acidified red blood cell lysate - a possible source of iron for intraerythrocytic malaria parasites. *Exp. Parasitol.* 77:261-272.
115. Fiori, P.L., Rappelli, P., Mirkarimi, S.N., Ginsburg, H., Cappuccinelli, P. and Turrini, F. (1993) Reduced microbicidal and anti-tumour activities of human monocytes after ingestion of *Plasmodium falciparum*-infected red blood cells. *Paras. Immun.* 15:647-655.
116. Atamna, H. and Ginsburg, H. (1993) Origin of reactive oxygen species in erythrocytes infected with *Plasmodium falciparum*. *Mol. Biochem. Parasitol.* 61:231-242.
117. Deharo, E., Gautret, P., Ginsburg, H., Chabaud, A.G. and Landau, I. (1994) Synchronization of *Plasmodium yoelii nigeriensis* and *P. y. killicki* infection in the mouse by means of Percoll-glucose gradient stage fractionation - determination of the duration of the schizogonic cycle. *Parasitol. Res.* 80:159-164.

118. Gabay, T., Krugliak, M., Shalmiev, G. and Ginsburg, H. (1994) Inhibition by antimalarial drugs of hemoglobin denaturation and iron release in acidified red blood cell lysates - a possible mechanism of their antimalarial effect? *Parasitology*, 108:371-382.
119. Ginsburg H. (1994) Transport pathways in the malaria-infected erythrocyte: characterization and their use as potential targets for chemotherapy. *Mem Inst Oswaldo Cruz*. 89 Suppl 2:99-109.
120. Ginsburg, H. (1994) How *Plasmodium* secures nutrients: New targets for drugs? (letter) *Parasitol. Today* 10:102-103.
121. Ginsburg, H. and Atamna, H. (1994) The redox status of malaria-infected erythrocytes: An overview with an emphasis on unresolved problems. *Parasite*, 1:5-13.
122. Atamna, H., Pascarmona, G.P. and Ginsburg, H. (1994) Hexose-monophosphate shunt activity in intact *Plasmodium falciparum*-infected erythrocytes and in free parasites. *Mol. Biochem. Parasitol.* 67:79-89.
123. Ginsburg, H. (1994) Transport pathways in the malaria-infected erythrocyte: Their characterization and their use as potential targets for chemotherapy. *Biochem. Pharmacol.* 48:1847-1856.
124. Gauteret, P., Deharo, E., Chabaud, A.G., Ginsburg, H. and Landau, I. (1994) *Plasmodium vinckei vinckei*, *P. v. lendum* and *P. yoelii yoelii*: chronobiology of the asexual cycle in the blood. *Parasite*, 1:235-239.
125. Cambie, G., Verdier, F., Gaudebout, C., Clavier, F. and Ginsburg, H. (1994) The pharmacokinetics of chloroquine in healthy and *Plasmodium chabaudi*-infected mice: Implications for chronotherapy. *Parasite*, 1:219-226.
126. Caillard, V., Beauté-Lafitte, A., Chabaud, A., Ginsburg, H. and Landau, I. (1995) Stage sensitivity of *Plasmodium vinckei petteri* to quinine, mefloquine and pyrimethamine. *J. Parasitol.* 81:295-301.
127. Krugliak, M., Deharo, E., Shalmiev, G., M. Sauvain, C. Moretti and Ginsburg, H. (1995) Antimalarial effects of C18 fatty acids on *Plasmodium falciparum* in culture and on *P. vinckei petteri* and *P. yoelii nigeriensis* in vivo. *Exp. Parasitol.* 81:97-105.
128. Ghigo, D., Todde, R., Ginsburg, H. Costamagna, C., Gautret, P., Bussolino, F., Ulliers, D., Giribaldi, G., Deharo, E., Gabrielli, G., Pescarmona, G. and Bosia, A. (1995) Erythrocyte stages of *Plasmodium falciparum* exhibit a high nitric oxide synthase (NOS) activity and release a NOS-inducing soluble factor. *J. Exp. Med.* 182:677-688.
129. Deharo, E., Krugliak, M., Baccam, D. and Ginsburg, H. (1995). Antimalarial properties of soy-bean fat emulsions. *Int. J. Parasitol.* 25:1457-1462.
130. Atamna, H. and Ginsburg, H. (1995) Heme degradation in the presence of glutathione: a proposed mechanism for heme degradation in abnormal red blood cells in vivo. *J. Biol. Chem.* 270:24876-24883.
131. Atamna, H., Krugliak, M., Shalmiev, G., Deharo, E. and Ginsburg, H. (1996) Mode of antimalarial effect of methylene blue and some of its analogues on *Plasmodium falciparum* in culture and their inhibition of *P. vinckei petteri* and *P. yoelii nigeriensis* in vivo. *Biochem. Pharmacol.* 51:693-700.
132. Ginsburg, H. (1996) The *Plasmodium* digestive vacuole: Metabolic headquarters and choice of drugs (letter). *Parasitol. Today* 12:83.
133. Ginsburg, H., Atamna, H., Shalmiev, G., Kanaani, J. and Krugliak, M. (1996) Resistance of glucose-6-phosphate dehydrogenase deficiency to malaria: Effects of fava bean hydroxypyrimidine glucosides on *Plasmodium falciparum* in culture and on phagocytosis of infected cells. *Parasitology*, 113:7-18.

134. Shalmiev, G., Krugliak, M. and Ginsburg, H. (1996) Inhibition of phagocytosis of Plasmodium falciparum-infected erythrocytes by 4-aminoquinoline antimalarial drugs. *Trans. R. Soc. Trop. Med. Hyg.* 90:558-562.
135. Atamna, H. and Ginsburg, H. (1997) The malaria parasite supplies glutathione to its host cell: Investigation of glutathione metabolism in human erythrocytes infected with Plasmodium falciparum. *Eur. J. Biochem.* 250:670-679.
136. Hoshen, M.B., Stein, W.D. and Ginsburg, H. (1998) Modeling the chloroquine chemotherapy of falciparum malaria; The value of spacing a split dose. *Parasitology*, 116:407-416.
137. Ginsburg, H. and K. Kirk (1998) Membrane transport in the malaria-infected erythrocyte, In: *Malaria: Parasite Biology, Pathogenesis, and Protection*, I. W. Sherman, Editor, ASM Press, Washington DC. pp 219-232.
138. Ginsburg, H., Famin, O., Zhang, J. and Krugliak, M. (1998) Inhibition of glutathione-dependent degradation of heme by chloroquine and amodiaquine as a possible basis for their antimalarial mode of action. *Biochem. Pharmacol.* 56:1305-1313.
139. Famin, O., Krugliak, M. and Ginsburg, H. (1999) Kinetics of inhibition of glutathione-mediated degradation of heme by antimalarial drugs. *Biochem. Pharmacol.* 58:59-68.
140. Zhang, J., Krugliak, M. and Ginsburg, H. (1999) The fate of heme in malaria infected erythrocytes in conjunction with the mode of action of antimalarial drugs. *Mol. Biochem. Parasitol* 99:129-141.
141. Ward, S.A., Bray, P.G and Ginsburg, H. (1999) Na⁺/H⁺ antiporter, chloroquine uptake and drug resistance: inconsistencies in a newly proposed model. *Parasitol. Today*, 15:360-363.
142. Ginsburg, H., Ward, S.A. and Bray, P. G. (1999) An integrated model of chloroquine action. *Parasitol. Today*, 15:357-360.
143. Ginsburg, H. (1999) The permeability properties of the parasite cell membrane. In: *Transport and Trafficking in the Malaria-Infected Erythrocyte*. Wiley, Chichester (Novartis Foundation Symposium No. 226) pp 99-113.
144. Ginsburg, H. (1999) Introduction: host-parasite interrelations in the genomic age. In: *Transport and Trafficking in the Malaria-Infected Erythrocyte*. Wiley, Chichester (Novartis Foundation Symposium No. 226), pp 1-5.
145. Bray, P.G., Janneh, O., Raynes, K.J., Mungthin, M., Ginsburg, H. and Ward, S.A. (1999) Cellular uptake of chloroquine is dependent on binding to ferriprotoporphyrin IX and is independent of NHE activity in Plasmodium falciparum. *J. Cell. Biol.* 145:363-376.
146. Ginsburg, H. and Krugliak, M. (1999) Chloroquine - some open questions on its antimalarial mode of action and the mechanism of resistance. *Drug Resistance Updates*, 2:180-187.
147. Kirk, K., Tilley, L. and Ginsburg, H. (1999) Transport and trafficking in the malaria-infected erythrocyte. *Parasitol. Today* 15: 355-357.
148. Ginsburg, H. and Golenser, J. (1999) Redox metabolism in glucose-6-phosphate dehydrogenase deficient erythrocytes and its relation to antimalarial chemotherapy. *Parassitologia* 41:309-311.
149. Ginsburg, H. (1999) Iron acquisition by Plasmodium spp (letter). *Parasitol Today* 15:466.
150. Ginsburg, H. (2000) On the use of single cell fluorescence imaging for the measurement of intracellular ion concentrations (letter). *Parasitol. Today*, 16:40-41.

151. Tiffert, T., Ginsburg, H., Krugliak, M., Elford, B. and Lew, V.L. (2000) Potent antimalarial activity of clotrimazole in in vitro cultures of *Plasmodium falciparum*. *Proc. Natl. Acad. Sci. USA.* 97:331-336.
152. Tiffert, T., Lew, V.L. and Ginsburg, H. (2000) Ferriprotoporphyrin IX does not affect the Ca²⁺-pump in intact erythrocytes. *J. Membr. Biol.* 175:107-113.
153. Ginsburg, H. (2000) Biochemistry of *Plasmodium* on the Web. *Parasitol Today*, 16:87-88.
154. Barkan, D., Ginsburg, H. and Golenser, J. (2000). Optimization of flow cytometric measurement of parasitemia in plasmodium-infected mice. *Intl. J. Parasitol.* 30:649-653.
155. Krugliak, M., Feder, R., Zolotarev, V.Y., Gaidukov, L., Dagan, A., Ginsburg, H. and Mor, A. (2000) Antimalarial activity of dermaseptin S4 derivatives. *Antimicrob. Agents Chemother.* 44:2442-2451.
156. Macreadie, I., Ginsburg, H., Sirawaraporn, W. and Tilley, L. (2000) Antimalarial drug development and new targets at MAM2000, *Parasitol. Today* 16:438-444.
157. Baelmans, R., Deharo, E., Bourdy, G., Muñoz, V., Quenevo, C., Sauvain, M. and Ginsburg, H. (2000) A search for natural bioactive compounds in Bolivia through a multidisciplinary approach. Part IV. Is a new haem polymerisation inhibition test pertinent for the detection of antimalarial natural products? *J. Ethnopharm.* 73:271-275
158. Hoshen, M.B., Na-Bangchang, K., Stein, W.D. and Ginsburg, H. (2000) Mathematical modeling of the chemotherapy of *falciparum* malaria with artesunate: the discovery of a partial cytostatic effect of the drug and its implication for treatment regimens. *Parasitology* 121:237-246.
159. Hoshen, M.B., Heinrich, R., Stein, W.D. and Ginsburg, H. (2000) Mathematical modelling of the within-host dynamics of *Plasmodium falciparum*. *Parasitology* 121:227-235.
160. Baelmans, R., Deharo, E., Muñoz, V., Sauvain, M. and Ginsburg, H. (2001) Experimental conditions for testing the inhibitory activity of chloroquine on the formation of β-haematin. *Exp. Parasitol.* 96:243-248.
161. Hoshen, M.B., Ginsburg, H. and Stein W.D. (2001) Pharmacokinetic- pharmacodynamic modelling of the antimalarial activity of mefloquine. *Parasitology*, 123:337-346.
162. Ginsburg, H. (2001) Old drugs, new drugs – some new insights both. *Trends Parasitol.* 17:455-456.
163. Adini, A., Krugliak, M., Ginsburg, H., Li, L., Lavie, L. and Warburg, A. (2001) Transglutaminase in *Plasmodium* parasites: activity and putative role in oocysts and blood stages. *Mol. Biochem. Parasitol.* 117:161-168.
164. Hoshen, M.B., Stein, W.D. and Ginsburg, H. (2002) Mathematical modelling of malaria chemotherapy: combining artesunate and mefloquine *Parasitology*. 124:9-15.
165. Famin, O. and Ginsburg, H. (2002) Differential effects of 4-aminoquinoline-containing antimalarial drugs on hemoglobin digestion in *Plasmodium falciparum*-infected erythrocytes. *Biochem. Pharmacol.* 63:393-398
166. Krugliak M, Zhang J, Ginsburg H. (2002) Intraerythrocytic *Plasmodium falciparum* utilizes only a fraction of the amino acids derived from the digestion of host cell cytosol for the biosynthesis of its proteins. *Mol Biochem Parasitol.* 119:249-56.
167. Ginsburg H. (2002) A double-headed pro-drug that overcomes chloroquine resistance. *Trends Parasitol* 18:103.

168. Lew, V.L., Tiffert, T. and Ginsburg, H. (2002) Do azoles and chloroquine share similar mechanisms of antimalarial action? *Trends Parasitol* 18:156
169. Dagan, A. Efron, L., Gaidukov, L., Mor, A. Ginsburg, H. (2002) In-vitro antimalarial activity of acylated K4-S4(1-13), a dermaseptin S4 derivative. *Antimicrob Agents Chemother* 46:1059-1066
170. Efron, L. Dagan, A., Gaidukov, L. Ginsburg, H., Mor, A. (2002) Direct interaction of dermaseptin S4 aminoheptanoyl derivative with intraerythrocytic malaria parasite leading to increased specific antiparasitic activity in culture. *J. Biol Chem* 277:24067-24072.
171. Deharo E, Garcia RN, Oporto P, Gimenez A, Sauvain M, Jullian V, Ginsburg H. (2002) A non-radiolabelled ferriprotoporphyrin IX biominerallisation inhibition test for the high throughput screening of antimalarial compounds. *Exp Parasitol.* 100:252-256.
172. Ginsburg, H. (2002) Oxidative permeabilization? *Trends Parasitol.* 18:346
173. Ginsburg, H. (2002) A new validated target for antimalarial chemotherapy. *Trends Parasitol.* 18:291
174. Ginsburg, H. (2002) Abundant proton pumping potential in the plasma membrane of *Plasmodium falciparum*, but why? *Trends Parasitol.* 18: 483-486
175. Kissinger, J.C., Brunk, B.P., Crabtree, J., Fraunholz, M.J., Gajria, B., Milgram, A.J., Pearson, D.S., Schug, J., Bahl, A., Diskin, S.J., Ginsburg, H., Grant, G.R., Gupta, D., Labo, P., Li, L., Mailman, M., McWeeney, S.K., Whetzel, P., Stoeckert, C.J.Jr., and Roos, D.S. (2002) PlasmoDB: the *Plasmodium* genome database Designing and mining a eukaryotic genomics resource. *Nature*, 419:490-2
176. Ginsburg, H. and Hoshen, M.B. (2002) Is the development of falciparum malaria in the human host limited by the availability of uninfected erythrocytes? *Malaria Journal*, 1:18 <http://www.malariajournal.com/content/1/1/18>
177. Bahl, A., Brunk, B., Crabtree, J., Fraunholz, M., Gajria, B., Grant, G., Ginsburg, H., Gupta, D., Kissinger, J., Labo, P., Li, L., Mailman, M., Milgram, A., Pearson, D., Roos, D., Schug, J., Stoeckert, C. Jr. and Whetzel, P. (2003) PlasmoDB: The *Plasmodium* Genome Resource. A database integrating experimental and computational data. *Nucl. Acids Res.* 31:212-215.
178. Famin, O. and Ginsburg, H. (2003) The treatment of *Plasmodium falciparum*-infected erythrocytes with chloroquine leads to accumulation of ferriprotoporphyrin IX bound to particular parasite proteins and to the inhibition of the parasite's 6-phosphogluconate dehydrogenase. *Parasite*, 10:39-50.
179. Krugliak, M., Zhang, J., Nissani, E., Steiner-Mordoch, S. and Ginsburg, H. (2003) Killing of intraerythrocytic *Plasmodium falciparum* by lysosomotropic amino acid esters. *Parasitol. Res.* 89:451-458.
180. Lew, V.L., Tiffert, T and Ginsburg, H. (2003) Excess haemoglobin digestion and the osmotic stability of *Plasmodium falciparum*-infected red blood cells. *Blood* 101:4189-4194.
181. Ginsburg, H. (2003) The mysteries of hemoglobin degradation in *Plasmodium falciparum*-infected erythrocytes. *Trends Parasitol.* 19:198-9.
182. Deharo, E., Barkan, D., Krugliak, M. Golenser, J. and Ginsburg, H. (2003) Potentiation of the antimalarial action of chloroquine in rodent malaria by drugs known to reduce cellular glutathione levels. *Biochem. Pharmacol.*, 66: 809-817.
183. Ginsburg, H. and Golenser, J. (2003) Glutathione is involved in the antimalarial action of chloroquine and its modulation affects drug sensitivity of human and murine species *Plasmodium*. *Redox Report* 8:276-279.

184. Becker, K., Tilley, L., Vennerstrom, J. L., Roberts, Rogerson, S. and Ginsburg, H. (2003) Oxidative stress in malaria parasite-infected erythrocytes: host-parasite interactions. *Intl. J. Parasitol.* 64:163-189..
185. Ginsburg, H. (2003) Editorial – Redox metabolism in malaria: from genes, through biochemistry and pathology, to drugs. *Redox Reports* 8:231-233
186. Ginsburg, H. (2003) Targets for anti-malarial drug development derived from basic research. In: *Drugs Against Parasitic Diseases: R&D methodologies and Issues. Discoveries and Drug Development.* A.H. Fairlamb, R.G. Ridley and H.J. Vial, eds. UNDP/WorldBank/WHO Special Programme for Research and Training in Tropical Diseases (TDR). pp. 119-128. (www.who.int/tdr/publications/publications/prd-drug.htm).
187. Ginsburg, H. and Stein W.D. (2004) The new permeability pathways induced by the malaria parasite in the membrane of the infected erythrocyte – comparing results using different experimental techniques. *J. Membr. Biol.* 197:113-34.
188. Lew, V.L., Macdonald, L., Ginsburg, H., Krugliak, M. and Tiffert, T. (2004) Excess haemoglobin digestion by malaria parasites: a strategy to prevent premature host cell lysis. *Blood Cells, Molecules, and Diseases* 32:353-9.
189. Bozdech Z., Ginsburg H.. (2004) Antioxidant defense in *Plasmodium falciparum*: Data mining of the transcriptome. *Malar J.* 3:23
190. Ginsburg, H. and Stein, W.D. (2005) How many functional transport pathways does *Plasmodium falciparum* induce in the membrane of its host erythrocyte? *Trends Parasitol.* 21:118-121.
191. Tiffert, T., Lew, V.L, Ginsburg, H., Krugliak, M., Croisille, L. and Mohandas, N. (2005) The hydration state of human red blood cells and their susceptibility to invasion by *Plasmodium falciparum*. *Blood*, 105:4853-4860.
192. Bozdech Z., Ginsburg H.. (2005) Data mining of the transcriptome of *Plasmodium falciparum*: The pentose phosphate pathway and ancillary processes. *Malaria J.* 4:17.
193. Ginsburg, H. (2005) Should chloroquine be laid to rest? *Acta Tropica*, 96:16-23.
194. Molyneux, C.-A., Krugliak, M. Ginsburg, H., Chibale, K. (2005) Arylpiperazines displaying preferential potency against chloroquine-resistant strains of the malaria parasite *Plasmodium falciparum*. *Biochem. Pharmacol.* 71:61-8.
195. Ringemann, C., Ebenhöh, O., Heinrich, R., Ginsburg, H. (2006). Can biochemical properties serve as selective pressure for gene selection during inter-species and endosymbiotic lateral gene transfer? *IEE Proceedings – System Biology* 153:212-222.
196. Krugliak, M., Ginsburg, H. (2006) The evolution of the new permeability pathways in *Plasmodium falciparum*-infected erythrocytes – a kinetic analysis. *Exp. Parasitol.* 114:253-258
197. Ginsburg, H. (2006) Progress in in silico functional genomics - Malaria Parasite Metabolic Pathways. *Trends Parasitol.* 22:238-40.
198. Henry M Staines; Abdulsaler Alkhalil; Richard J Allen; Hugo R De Jonge; Elvira, Derbyshire; Stephane Egee; Hagai Ginsburg; David A Hill; Stephan M Huber; Kiaran Kirk; Florian Lang; Godfrey Lisk; Eugene Oteng; Ajay D Pillai; Kempaiah Rayavara; Sherin Rouhani; Kevin J Saliba; Crystal Shen; Tsione Solomon; Serge S L Thomas; Patrick Verloo; Sanjay A Desai (2007) Electrophysiological studies of malaria parasite-infected erythrocytes: Current consensus. *Int. J. Parasitol.* 37: 475-482
199. Inna Radzishevsky, Miriam Krugliak, Hagai Ginsburg and Amram Mor (2007) Antiplasmoidal activity of lauryl-lysine oligomers. *Antimicrob. Agents Chemother.* 51: 1753-1759.

200. Woynarowski, J.M., Krugliak, M., Ginsburg, H. (2007) Pharmacogenomic analyses of targeting the AT-rich malaria parasite genome with AT-specific alkylating drugs. *Mol. Biochem. Parasitol.* 154: 70–81.
201. Bourdy, G, Willcox, ML., Ginsburg, H., Rasoanaivo, P., Graz, B. and Deharo, E. (2008) Ethnopharmacology and malaria: New hypothetical leads or old efficient antimalarials? *Int. J. Parasitol.* 38:33-41.
202. Bozdech, Z., Mok, S., Hu, G., Imwong, M., Jaidee, A., Russell, B., Ginsburg, H., Nosten, F., Day, N.P.J., White, N.J., Carlton, J.M. and Preiser, P.R. (2008) The transcriptome of Plasmodium vivax reveals evolution of transcriptional regulation in malaria parasites. *Proc. Natl. Acad. Sci. USA*, in press. 105:16290–16295.
203. Ginsburg, H. (2009) Caveat emptor: limitations of the automated reconstruction of metabolic pathways in Plasmodium. *Trends Parasitol.* 25:38-44
204. Mauritz, J.M.A., Esposito, A., Ginsburg, H., Kaminski, C.F, Tiffert, T., Lew, V.L. (2009) The homeostasis of Plasmodium falciparum infected red blood cells. *PLoS Comp. Biol.* 5(4):e1000339
205. Ginsburg H, Abdel-Haleem AM. Malaria Parasite Metabolic Pathways (MPMP) Upgraded with Targeted Chemical Compounds. *Trends Parasitol.* 2016 32(1):7-9.
206. Deharo E, Ginsburg H. Analysis of additivity and synergism in the
207. anti-plasmodial effect of purified compounds from plant extracts. *Malar J.* 2011 10 Suppl 1:S5.
208. Zaknoon F, Wein S, Krugliak M, Meir O, Rotem S, Ginsburg H, Vial H, Mor A. Antiplasmodial properties of acyl-lysyl oligomers in culture and animal models of malaria. *Antimicrob Agents Chemother.* 201155(8):3803-11.
209. Ginsburg H, Deharo E. A call for using natural compounds in the development of new antimalarial treatments - an introduction. *Malar J.* 2011 10 Suppl 1:S1.
210. Ginsburg H. Metabolism: Malaria parasite stands out. *Nature.* 2010 5;466(7307):702-3.
211. Wakanine-Grinberg JH, McQuillan JA, Hunt N, Ginsburg H, Golenser J. Modulation of cerebral malaria by fasudil and other immune-modifying compounds. *Exp Parasitol.* 2010 125(2):141-6
212. Martin RE, Ginsburg H, Kirk K. Membrane transport proteins of the malaria parasite. *Mol Microbiol.* 2009 74(3):519-28.
- 213.