

Bianca Fuhrman

Curriculum Vitae

Date and place of birth: October 24, 1952; Romania.

Education:

1977	Technion – Israel Institute of Technology, Haifa	Biology	B.Sc.
1982	Technion – Israel Institute of Technology, Haifa	Biology	Teaching
1985	Technion – Israel Institute of Technology, Haifa	Medical Science	M.Sc.
1992	Technion – Israel Institute of Technology, Haifa	Medical Science	D. Sc.

Academic and professional appointments:

1996-2001	Technion – Israel Institute of Technology, Haifa	Sen.Adj.Lecturer	Medicine
1998-present	Technion – Israel Institute of Technology, Haifa	Sen.Adj.Lecturer	Food Eng.
2002-present	Technion – Israel Institute of Technology, Haifa	Sen.Adj. Lecturer	Medicine

Significant awards and recognition:

1999-	Technion, Faculty of Medicine,	Outstanding Lecturer.
1999-	Faculty of Medicine,	Outstanding Lecturer.
2001-	Faculty of Medicine,	Outstanding Lecturer.
2003-	Faculty of Medicine,	Outstanding Lecturer.
2003-	Israel Society for Clinical Biochemistry	Annual Award for Scientific Achievements.
2005-	Faculty of Medicine,	Outstanding Lecturer.
2005-	Int. Symposium on Human Health	Invited Speaker
2005-	Int. Symposium on Triglycerides and HDL	Invited Speaker
2006-	Faculty of Medicine,	Outstanding Lecturer.

Competitive grants (past 5 years only):

2000-2001	The Israel Ministry of Health NIS 100,000	P.I.	Antioxidants and Atherosclerosis
2002-2003	California Table Grape Commission \$ 25,000	P.I.	Grapes and Atherosclerosis
2004-2006	The Niedersachsische Ministeriums Euro 50,000	P.I.	Urokinase in differentiating monocytes
2005-2007	The Israel Ministry of Health NIS 160,000	P. I.	Urokinase in differentiating monocytes
2003-2005	The Israel Ministry of Health NIS 160,000	P.I.	Monocyte to macrophage differentiation
2004-2007	The Israel Science Foundation (ISF) \$ 90,000	P.I.	Paraoxonase in the gastrointestinal tract

Significant Publications in peer-reviewed journals (past 5 years only):

1. **Fuhrman B.**, and Aviram M. Anti-atherogenicity of nutritional antioxidants. IDrugs 2001;4: 82-92.
2. **Fuhrman B.** and Aviram M. Flavonoids protect LDL from oxidation and attenuate atherosclerosis. Curr. Opin. Lipidol. 2001;12:41-48.
3. **Fuhrman B.**, Volkova N and Aviram M. White wine with red wine-like properties: Increased extraction of grape skin polyphenols improves the antioxidant capacity of the derived white wine. J. Agric. Food Chem. 2001;49:3164-3168.
4. **Fuhrman B.**, Volkova N, Kaplan M, Presser D, Attias J, Hayek T, Aviram M. Antiatherosclerotic effects of licorice extract supplementation to hypercholesterolemic

- patients: Increased resistance of their LDL to atherogenic modifications, reduced plasma lipids levels, and decreased systolic blood pressure. *Nutrition*, 2002;18: 268-273.
5. **Fuhrman B**, Volkova N, and Aviram M. Oxidative Stress Increases the Expression of the CD36 Scavenger Receptor and the Cellular Uptake of Oxidized LDL in Macrophages from Atherosclerotic Mice: Protective Role of Antioxidants and of Paraonase. *Atherosclerosis* 2002;161:307-316.
 6. Aviram M, **Fuhrman B**. Wine flavonoids protect against LDL oxidation and atherosclerosis. *Ann. N.Y Acad. Sci.* 2002;957:146-162.
 7. **Fuhrman B**, Aviram M. Preservation of paraonase activity by wine by wine flavonoids: possible role in protection of LDL from lipid peroxidation. *Ann NY Acad Sci* 2002;957: 321-324.
 8. **Fuhrman B**, Koren L, Volkova N, Keidar S, Hayek T, Aviram M. Atorvastatin therapy in hypercholesterolemic patients suppresses cellular uptake of oxidized LDL by differentiating monocytes. *Atherosclerosis* 2002;164:179-185.
 9. Howard A., Chopra M., Thurnham D., Strain J., **Fuhrman B.**, and Aviram M. Red wine consumption and inhibition of LDL oxidation: What are the important components? *Med Hypothesis*. 2002;59:101-104.
 10. Aviram M., Dornfeld L., Kpalan M., Coleman R., Gaitini D., Nitecki S., Hofman A., Rosenblat M., Volkova N., Presser D., Attias J., Hayek T and **Fuhrman B**. Pomegranate juice flavonoids inhibit low-density lipoprotein oxidation and cardiovascular diseases: studies in atherosclerotic mice and in humans. *Drugs Exptl.Clin.Res* 2002; (2/3) 49-62.
 11. **Fuhrman B.**, Shiner M., Volkova N., Aviram M. Cell-induced copper ion-mediated low density lipoprotein oxidation increases during in vivo monocyte-to-macrophage differentiation. *Free Radic Biol Med* 2004;37/2:259-271.
 12. **Fuhrman B**, Partoush A, Aviram M. Acetylcholine esterase protects LDL against oxidation. *Biochem Biophys Res Commun.* 2004;322(3):974-8.
 13. Shiner M, **Fuhrman B**, Aviram M. Paraonase 2 (PON2) expression is upregulated via a reduced-nicotinamide-adenine-dinucleotide-phosphate (NADPH)-oxidase-dependent mechanism during monocytes differentiation into macrophages. *Free Radic Biol Med.* 2004;37(12):2052-63.
 14. Lavy A, Neeman Y, **Fuhrman B**. The antioxidative effect of the bacteria *Dienococcus radiophilus* against LDL lipid peroxidation. *Eur J Nutr.* 2005;44:281-284.
 15. **Fuhrman B**, Volkova N, Aviram M. Paraonase 1 (PON1) is present in postprandial chylomicrons. *Atherosclerosis* 2005;180(1):55-61.
 16. **Fuhrman B**, Volkova N, Coleman R, Aviram M. Grape powder polyphenols attenuate atherosclerosis development in apolipoprotein E deficient (E⁰) mice and reduce macrophage atherogenicity. *J Nutr.* 2005;135(4):722-728.
 17. **Fuhrman B**, Volkova N, Aviram M. Pomegranate juice inhibits oxidized LDL uptake and cholesterol biosynthesis in macrophages. *J Nutr Biochem* 2005;16(9):570-576.
 18. Aviram M, Kaplan M, Rosenblat M, **Fuhrman B**. Dietary antioxidants and paraonases against LDL oxidation and atherosclerosis development. *Handb Exp Pharmacol.* 170:263-300 (2005).
 19. Shiner M, **Fuhrman B**, Aviram M. A biphasic U-shape effect of cellular oxidative stress on the macrophage anti-oxidant paraonase 2 (PON2) enzymatic activity. *Biochem Biophys Res Commun.* 349:1094-1099 (2006).
 20. **Fuhrman B**, Volkova N, Aviram M. Postprandial serum triacylglycerols and oxidative stress in mice after consumption of fish oil, soy oil or olive oil: Possible role for paraonase-1 triacylglycerol lipase-like activity. *Nutrition.* 22:922-930 (2006).
 21. **Fuhrman B**, Plat D, Herzog Y, Aviram M. Consumption of a novel dietary formula of plant sterol esters of canola oil Fatty acids, in a canola oil matrix containing 1,3-diacylglycerol, reduces oxidative stress in atherosclerotic apolipoprotein e-deficient mice. *J Agric Food Chem.*55:2028-33 (2007).

22. Shiner M, **Fuhrman B**, Aviram M. Macrophage paraoxonase 2 (PON2) expression is up-regulated by pomegranate juice phenolic anti-oxidants via PPARgamma and AP-1 pathway activation. *Atherosclerosis*. 2007 Feb 9;

Book chapters and invited reviews (past 5 years only):

1. Fuhrman B., and Aviram M. Polyphenols and Flavonoids Protect LDL against Atherogenic Modifications. In: Handbook of Antioxidants : Biochemical, Nutritional and Clinical Aspects, 2nd Edition, 2001, Ch 16:303-336.
2. Aviram M and Fuhrman B. Effects of flavonoids on the oxidation of LDL and atherosclerosis. In: *Flavonoids in health and disease*, 2nd Ed. Rice-Evans C and Packer L (Eds), pp 165-203, 2003.
3. Aviram M and Fuhrman B. Wine Flavonoids, LDL cholesterol oxidation and atherosclerosis. In: Sandler M, Pinder R (eds), *Wine: A scientific exploration*, 1st ed. Taylor & Francis, 140-159, 2003.
4. Aviram M, Vaya J, Fuhrman B. Licorice root flavonoid antioxidants reduce LDL oxidation and attenuate cardiovascular diseases. In: Packer L, Choon Nam O, Halliwell B (eds) *Herbal and traditional medicine: Molecular aspects of health*, Ch 27 pp.595-614 (2004).
5. Aviram M, Kaplan M, Rosenblat M, and Fuhrman B. Dietary antioxidants and paraoxonases against LDL oxidation and atherosclerosis development. In: *Handbook of Experimental Pharmacology: Atherosclerosis – Drugs and Diet*. Vol. 170 (2005 in press).
6. Bianca Fuhrman and Michael Aviram. Pomegranate Juice Protects against Cardiovascular Diseases. In: *Pomegranate: Ancient roots to modern medicine*. Eds Seeram N., Schulman R., and Heber D. (in press).

Courses taught:

Lipoproteins and Atherosclerosis (277426).

Lipids and Lipoproteins, Department of Food Engineering and Biotechnology (068318).

Graduate students (past 5 years only):

Orna Nitzan, Residents, 2005

Maayan Shiner, PhD, 2005

Ayelet Partoush, MD thesis, 2005

Maayan Shiner, M.Sc, 2004

Lena Koren, MD thesis, 2000

Limor Ben Yaish, M.Sc, 1997

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