

# Israel Vlodavsky

## Curriculum Vitae

**Date and place of birth:** August 31, 1944; Haifa, Israel

### Education:

1968	Hebrew University, Jerusalem	Biology	B.Sc.
1970	Hebrew University, Jerusalem	Biochemistry	M.Sc.
1975	Weizmann Institute, Rehovot	Life Sciences	Ph.D.

### Academic and professional appointments:

1975-1976:	University of California, Los Angeles	Post-Doc.	Biochemistry
1976-1979:	University of California, San Francisco	Post-Doc.	Cancer Research
1979-1981:	Hadassah-Hebrew University, Jerusalem	Lecturer	Experimental Oncology
1981-1984:	Hebrew University, Jerusalem	Senior Lecturer	Experimental Oncology
1985-1986:	Harvard Medical School, Boston	Visiting Professor	Vascular Biology
1985-1990:	Hadassah-Hebrew University, Jerusalem	Associate Professor	Experimental Oncology
1990- 2002:	Hadassah-Hebrew University, Jerusalem	Prof., Head of Unit	Tumor Biology
2002- present:	Technion, Haifa	Professor	Cancer & Vascular Biology

### Significant awards and recognition (past 5 years only):

1975: Mifal Hapais prize for a distinguished Ph.D. Thesis.  
1980: Judith Segal Prize for studies of Breast Cancer.  
1997: Elkeles Prize - Distinguished scientist in Medicine.  
2002: Teva Prize - Distinction in Cancer Research.  
2002-2004: Board of Directors, International Metastasis Research Society  
2005: The Henry Taub Prize for Excellence in Research  
2006: The Landau Prize in Medicine

### Competitive grants (past 5 years only):

2004-2009	U.S. National Institutes of Health \$ 177,000 per year	P.I. Heparanase in cancer metastasis & angiogenesis
2006-2010	Israel Science Foundation (ISF) \$ 67,000 per year	P.I. Heparanase: target for therapeutic strategies in cancer
2004-2008	US-Israel Science Foundation (BSF) \$ 37,000 per year	P.I. Heparanase substrate specificity & cleavage products
2007-2012	Israel Cancer Research Fund (ICRF) \$ 50,000 per year	P.I. Heparanase, one molecule with multiple functions
2006-20059	Juvenile Diabetes Research Foundation (JDRF) \$ 83,000 per/year	P.I. Involvement of heparanase in diabetic nephropathy

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

Goldshmidt, O., Zcharia, E., Abramovitch, R., Metzger, S., Guatta-Rangini, Z., Aingorn, H., Friedmann, Y., Mitrani, E., and Vlodavsky, I. Cell surface expression and secretion of heparanase markedly promote tumor angiogenesis and metastasis. *Proc. Natl. Acad. Sci. USA.* 99: 10031-10036, 2002.

Goldshmidt, O., Zcharia, E., Cohen, M., Aingorn, H., Nadav, L., Cohen, I., Katz, B-Z. Geiger, B., and Vlodavsky, I. Heparanase mediates cell adhesion independent of its enzymatic activity. *FASEB J.* 17: 1015-1025, 2003.

Zcharia, E., Metzger, S., Chajek-Shaul, T., Aingorn, H., Weinstein, T., Li, J-P., Lindahl, U., Elkin, M., and Vlodavsky, I. Transgenic expression of mammalian heparanase uncovers physiological functions of heparan sulfate in tissue morphogenesis, vascularization and feeding behavior. *FASEB J.* 18: 252-263, 2004.

Edovitsky, E., Elkin, M., Zcharia, E., Peretz, T., and Vlodaysky, I. Heparanase gene silencing averts tumor invasiveness, angiogenesis and metastatic spread. *J. Nat. Cancer Inst.* 96: 1219-1230, 2004.

Naggi, A., Casu, B., Perez, M., Torri, G., Cassinelli, G., Penco, S., Pisano, C., Giannini, G., Ishai-Michaeli, R., and Vlodaysky, I. Modulation of the heparanase-inhibiting activity of heparin through selective desulfation, graded N-acetylation, and glycol-splitting. *J Biol. Chem.* 280 :12103-12113, 2005.

Abboud-Jarrous, G., Aingorn, A., Rangini-Guetta, Z., Atzmon, R., Elgavish, S., Peretz, T., and Vlodaysky, I. Heparanase processing: Site-directed mutagenesis, proteolytic cleavage and activation. *J. Biol. Chem.*, 280: 13568-13575, 2005.

Zetser, A., Bashenko, Y., Edovitsky, E., Levy-Adam, F., Vlodaysky, I. and Ilan, I. Heparanase induces VEGF expression: Correlation with p38 phosphorylation levels and Src activation. *Cancer Res.* 66: 1455-1463, 2006.

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

Vlodaysky, I., Ilan, N., Naggi, A., and Casu., B. Heparanase: Structure, Biological Functions, and Inhibition by Heparin-Derived Mimetics of Heparan Sulfate. *Curr. Pharm. Des.* 13: 2057-2073, 2007.

Ilan, N., Elkin, M., and Vlodaysky, I. Regulation, function and clinical significance of heparanase in cancer metastasis and angiogenesis, *The International Journal of Biochemistry & Cell Biology* 38: 2018-39, 2006.

### **Courses taught:**

Control of tumor progression (278021).

Biology of the cell (274104 Medicine & Nursing school)

Biology of the cell (American Program)

### **Graduate students (past 5 years only):**

Michael Elkin, Ph.D., 2002 (Current position: Senior scientist, Dept. of Oncology, Hadassah Medical Center).

Orit Goldshmidt, Ph.D., 2003 (Current position: Senior scientist, Faculty of Biology, Technion).

Eyal Zcharia, Ph.D., 2005

Evgeny Edovitsky, Ph.D., 2005

**Current Ph.D. Students:** Menachem Bitan, Irit Cohen, Olga Ben-Zaken, Flonia Levi-Adam, Yona Nadir, Itai Shafat, Svetlana Gingis-Velitski, Moran Shoshi-Eitan

**Current Post-Doctoral fellows:** Anna Zetser, Liat Fux, Lea Baraz, Gahda Abboud-Jarrous, Eyal Zcharia

### **Contact information:**

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