

CURRICULUM VITAE

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Name: Ben Katz

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Work Email: ben.katz76@gmail.com

Place of Birth: Israel

Education:

2016	Post-doc	Medical Neurobiology (Prof. Alexander Binshtok)	The Hebrew University of Jerusalem, Jerusalem, Israel
2012	PhD. <i>summa cum laude</i>	Medical Neurobiology (Prof. Baruch Minke)	The Hebrew University of Jerusalem, Jerusalem, Israel
2005	M.Sc.	Neurobiology (Prof. Baruch Minke)	The Hebrew University of Jerusalem, Jerusalem, Israel
2003	Pre-requisite courses.	Biology	The Hebrew University of Jerusalem, Jerusalem, Israel
2003	B.Sc.	Mathematics and Philosophy	The Hebrew University of Jerusalem, Jerusalem, Israel

Military Service:

1994-1997	Israel Defense Forces	Electronic warfare (outstanding soldier)
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Teaching position:

2007-2012	Teaching assistant in Medical physiology A and B lab courses (A – General physiology, B - Human physiology).	The Hebrew University of Jerusalem, Jerusalem, Israel
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Honors and Fellowships:

2013	The Edmond and Lily Safra Center for Brain Sciences (ELSC) fellowship	The Hebrew University of Jerusalem
2013	The National Network of Excellence in Neuroscience (NNE) TEVA fellowship	TEVA
2012	Dr. Michael Sherwood Prize for excellence in PhD work	The Hebrew University of Jerusalem

International scientific conferences:

2011	The first international meeting on Ion Channel Signaling Mechanisms: From basic science to clinical application , Marrakesh, Morocco. Poster presentation.
2009	TRP Channels: From Sensory Signaling to Human Disease , Stockholm, Sweden. Poster presentation.
2008	Minerva-Gentner Symposium, Sensory Signaling and Information Processing , Hamburg, Germany. Poster presentation.
2006	Gordon Conference - Ligand recognition and Molecular gating , Il Ciocco, Italy. Poster presentation.

Technical skills:

Electrophysiology, Ca²⁺ imaging, Molecular biology, Biochemistry, Cell culture, Confocal microscopy, DNA origami.

Languages:

English (fluent)

Hebrew (mother tongue)

Practical and Theoretical knowledge:

Signal transduction, Sensory physiology, Vision, Human Physiology and Neurophysiology, Pain, physiology, Biophysics of channels and transporters, DNA origami, DNA and RNA aptamers.

Publication List:

Research papers:

1. TRPM2 Mediates Neutrophil Killing of Disseminated Tumor Cells

Gershkovitz M, Caspi Y, Fainsod-Levi T, Katz B, Michaeli J, Khawaled S, Lev S, Polyansky L, Shaul ME, Sionov RV, Cohen-Daniel L, Aqeilan RI, Shaul YD, Mori Y, Karni R, Fridlender ZG, Binshtok AM, Granot Z. *Cancer Res.* 2018 May 15;78(10):2680-2690.

2. Ultrafast optical recording reveals distinct capsaicin-induced ion dynamics along single nociceptive neurite terminals in vitro.

Goldstein RH, **Katz B**, Lev S, Binshtok AM. *Journal of Biomedical Optics* 2017 Jul 1;22(7):76010.

3. The Role of Kv7/M Potassium Channels in Controlling Ectopic Firing in Nociceptors.

Barkai O, Goldstein RH, Caspi Y, **Katz B**, Lev S, Binshtok AM. *Frontiers in Molecular Neuroscience* 2017 Jun 13;10:181.

4. Depletion of Membrane Cholesterol Suppresses Drosophila Transient Receptor Potential-Like (TRPL) Channel Activity.

Peters M, **Katz B**, Lev S, Zaguri R, Gutorov R, Minke B. *Current Topics in Membranes* 2017;80:233-254.

5. The latency of the light response is modulated by the phosphorylation state of Drosophila TRP at a specific site.

Katz B, Voolstra O, Tzadok H, Yasin B, Rhodes-Modrov E, Bartels JP, Strauch L, Huber A, Minke B. *Channels (Austin)* 2017 Nov 2;11(6):678-685.

6. Electrophysiological Method for Whole-cell Voltage Clamp Recordings from Drosophila Photoreceptors.

Katz B*, Gutorov R*, Rhodes-Mordov E, Hardie RC, Minke B.
***equal contribution**
Journal of Visualized Experiments 2017 Jun 13;(124).

7. The Phosphorylation State of the Drosophila TRP Channel Modulates the Frequency Response to Oscillating Light In Vivo.

Voolstra O, Rhodes-Mordov E, **Katz B**, Bartels JP, Oberegelsbacher C, Schotthöfer SK, Yasin B, Tzadok H, Huber A, Minke B. *Journal of Neuroscience.* 2017 Apr 12;37(15):4213-4224.

8. Ectopic Expression of Mouse Melanopsin in Drosophila Photoreceptors Reveals Fast Response Kinetics and Persistent Dark Excitation.

Yasin B, Kohn E, Peters M, Zaguri R, Weiss S, Schopf K, **Katz B**, Huber A, Minke B. *Journal of Biological Chemistry* 2017 Mar 3;292(9):3624-3636.

9. Functional cooperation between the IP₃ receptor and phospholipase C secures the light sensitivity to light of *Drosophila* photoreceptors *in vivo*

Kohn E, **Katz B**, Yasin B, Peters M, Rhodes E, Zaguri R, Weiss S, Minke B. *Journal of Neuroscience* 2015 Feb 11;35(6):2530-2546

10. The role of slow and persistent TTX-resistant sodium currents in acute tumor necrosis factor- α -mediated increase in nociceptors excitability

Gudes S, Barkai O, Caspi Y, **Katz B**, Lev S, Binshtok AM.
Journal of Neurophysiology 2015 Jan 15;113(2):601-619

11. The *Drosophila* TRP and TRPL are assembled as homomultimeric channels *in vivo*

Katz B*, Oberacker T*, Richter D, Tzadok H, Peters M, Minke B, and Huber A.

***equal contribution**

Journal of Cell Science 2013 May 17

12. Compartmentalization and Ca^{2+} Buffering Are Essential for Prevention of Light-Induced Retinal Degeneration

Weiss S, Kohn E, Dadon D, **Katz B**, Peters M, Lebendikler M, Kosloff M, Colley N.J, Minke B.

Journal of Neuroscience 2012 Oct 17;32(42):14696-14708

13. The activity of the TRP-like channel depends on its expression system.

Lev S*, **Katz B***, Minke B.

***equal contribution**

Channels (Austin) 2012 Mar-Apr;6(2):86-93.

14. Phospholipase C mediated Suppression of Dark Noise Enables Single Photon Detection in *Drosophila* Photoreceptors

Katz B, Minke B.

Journal of Neuroscience 2012 Feb 22; 32(8):2722-33.

15. Signal dependent hydrolysis of PI(4,5)P₂ without activation of phospholipase C: Implications on the gating of the *Drosophila* TRPL channel

Lev S, **Katz B**, Tzarfaty V, Minke B.

Journal of Biological Chemistry 2011 Nov 7.

16. Translocation of the *Drosophila* transient receptor potential-like (TRPL) channel requires both the N- and C-terminal regions together with sustained Ca^{2+} entry

Richter D*, **Katz B***, Oberacker T, Tzarfaty V, Belusic G, Minke B, Huber A.

***equal contribution**

Journal of Biological Chemistry 2011 Sep 30; 286 (39):34234-43.

17. Membrane lipid modulations remove divalent open channel block from TRP-like and NMDA channels

Parnas M, **Katz B**, Lev S, Tzarfaty V, Dadon D, Gordon-Shaag A, Metzner H, Yaka R, Minke B.

Journal of Neuroscience 2009 Feb 25; 29 (8):2371-83.

18. Open channel block by Ca^{2+} underlies the voltage dependence of *Drosophila* TRPL channel

Parnas M*, **Katz B***, Minke B.

***equal contribution**

Journal of General Physiology 2007 Jan; 129 (1):17-28.

Reviews:

1. The *Drosophila* light-activated TRP and TRPL channels - targets of the phosphoinositide signaling cascade

Katz B, Minke B.

Progress in Retinal Research 2018 – **sent for review**

2. TRPC Channels – Insight from the *Drosophila* Light Sensitive Channels

Katz B, Pak WL, Minke B.

Oxford University Press 2018 – **sent for review**

3. *Drosophila* photoreceptors and signaling mechanisms

Katz B, Minke B.

Frontiers in Cell Neuroscience 2009 Jun 11; 3:2.

Book chapters:

1. TRP channel in vision

Katz B, Payne R, Minke B.

Neurobiology of TRP Channels 2017, Sep 7; Pages 27-63, CRC Press Taylor and Francis group

2. Genetic Dissection of Invertebrate Phototransduction

Katz B, Minke B.

Encyclopedia of the Eye 2010, Pages 195-206.