

Curriculum vitae – Barak Rotblat

Contact

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Degrees awarded

PhD 2007 Tel-Aviv University, Israel, Department of Neurobiochemistry; Prof. Yoel Kloog
M.Sc. 2001 Tel-Aviv University, Israel, Department of Plant Sciences; Prof. Adi Avni; Cum Laude
B.Sc. 1998 Tel-Aviv University, Israel, Biology

Honors / Fellowships

2007-2010 Human Frontier Long term Fellowship
2003 Dean Award for excellence; Tel Aviv University; Faculty of Life Sciences
2002 Dean Award for excellence; Tel Aviv University; Faculty of Life Sciences

Research Experience

2014- Ben-Gurion University of the Negev; senior lecturer
2012-2014 MRC Toxicology Unit Leicester UK; Carrier development fellow; Prof. Gerry Melino
2007-2012 University of British Columbia; Post doctoral fellow; Prof. Poul H Sorensen
2001-2006 Tel-Aviv University; Tel-Aviv; PhD student; Prof. Yoel Kloog
1998-2001 Tel-Aviv University; Tel-Aviv; MSc student; Prof. Adi Avni

Outreach

Building a Scientific Community – DIY for Young PIs
<http://blogs.nature.com/naturejobs/2018/01/22/building-a-scientific-community-diy-for-young-pis/>

Bar M, Rotblat B, Rechavi O.

Nomad scientists and the ones left behind.

Elife. 2017 Jul 11;6. pii: e30183. doi: 10.7554/eLife.30183

- 2015 Popular Science talk, Beit Ha'am – a club for retired peoples, Kibbutz Lahav
- 2016 Popular Science talk, Biology teachers' forum, BGU
- 2019 International Cancer Day lecture for students (9th grade) – Eshkol Pais, Dimona
- 2019 Evolution, Wolves and dogs talk (1st grade) - Yovaly Hanegev (school), Gevaot Bar
- 2019 Hosting school kids at our lab – Elzahara school, Kalansuwa
- 2020 High school lecture for the "Shior Acher" organization (<http://www.shiuracher.org/>) "Amit" high school, Beer Sheva
- 2020 International Cancer Day lecture for students (9th grade) – Eshkol Pais, Dimona

2020 Podcast – “Da Mada”
2020 Webinar for young PIs – Bioabroad
2021 Podcast – “finding genius” - <http://bit.ly/3pGYX8W>
2021 Educational video – Israel Cancer Association
<https://www.youtube.com/watch?v=cXgneKpAd1o&t=823s>

Teaching at BGU

undergrad

2020- Biology for non-biologists
2018- The cell - advanced
2015- Genetic Engineering
2014- The cell- practical lab

Grad

2017- Molecular Biology of Cancer

Students

Current

Gal Mazor; PD candidate
Tal Levy; PhD candidate
Khawla Elasad; PhD candidate
Hila Ben David; PhD candidate
Mai Bardani (co-supervision with Moshe Elkabets from the Faculty of Health Sciences, BGU)
Geut Galai; M.Sc candidate

Graduated

Gal Mazor; MSc
Tal Levy; MSc
Khawla Elasad; MSc
Hila Ben David; MSc
Ran Marciano; MSc – honors
Hanin Abu Frieih; MSc

Postdoc

2017-2018 Soumasree De

Editorial board of member

Biology of the Cell, 2015-
Cell Death and Disease, 2018-

Grants

NIBN	2015-2018
ISF	2015-2019
	2019-2024
DKFZ-MOST	2016-2019 in collaboration with MD Marc Remke (DKFZ Dusseldorf)
Israel Cancer Association	2017-2019

Publications

*ISI H-index 24; Google Scholar H: 27; i10: 37

*ISI Total number of citations of all articles 1840; Google scholar: 2,672

* BGU required

Mazor G, Smirnov D, Ben David H, Khrameeva E, Toiber D, **Rotblat B**.
TP73-AS1 is induced by YY1 during TMZ treatment and highly expressed in the aging brain; Aging (Albany NY). 2021 Jun 11;13(11):14843-14861

Badarni M, Prasad M, Golden A, Bhattacharya B, Levin L, Yegodayev KM, Dimitstein O, Joshua BZ, Cohen L, Khrameeva E, Kong D, Porgador A, Braiman A, Grandis JR, **Rotblat B**, Elkabets M.

IGF2 Mediates Resistance to Isoform-Selective-Inhibitors of the PI3K in HPV Positive Head and Neck Cancer; Cancers (Basel). 2021 May 7;13(9):2250.

Vershinin Z, Feldman M, Werner T, Weil LE, Kublanovsky M, Abaev-Schneiderman E, Sklarz M, Lam EYN, Alasad K, Picaud S, **Rotblat B**, McAdam RA, Chalifa-Caspi V, Bantscheff M, Chapman T, Lewis HD, Filippakopoulos P, Dawson MA, Grandi P, Prinjha RK, Levy

BRD4 methylation by the methyltransferase SETD6 regulates selective transcription to control mRNA translation; D.Sci Adv. 2021 May 26;7(22):eabf5374. doi: 10.1126/sciadv.abf5374. Print 2021 May.

Alasad K, Voeltzke K, Levin L, Reifenberger G, Leprivier G, **Rotblat B**.
4EBP1/2 are active under standard cell culture conditions to regulate the translation of specific mRNAs; Cell Death Dis. 2020 Nov 11;11(11):968. doi: 10.1038/s41419-020-03182-6.

Leprivier G, **Rotblat B**.

How does mTOR sense glucose starvation? AMPK is the usual suspect.
Cell Death Discov. 2020 Apr 22;6:27

Galai G, Ben-David H, Levin L, Orth MF, Grünewald TGP, Pilosof S, Berstein S, **Rotblat B**.
Pan-Cancer Analysis of Mitochondria Chaperone-Client Co-Expression Reveals Chaperone Functional Partitioning; Cancers (Basel). 2020 Mar 30;12(4):825

Marciano R, David HB, Akabayov B, **Rotblat B**

The Amuvatinib Derivative, N-(2H-1,3-Benzodioxol-5-yl)-4-{thieno[3,2-d]pyrimidin-4-yl}piperazine-1-carboxamide, Inhibits Mitochondria and Kills Tumor Cells under Glucose Starvation; Int J Mol Sci. 2020 Feb 4;21(3):1041

Musa J, Cidre-Aranaz F, Aynaud MM, Orth MF, Knott MML, Mirabeau O, Mazor G, Varon M, Hölting TLB, Grossetête S, Gartlgruber M, Surdez D, Gerke JS, Ohmura S, Marchetto A, Dallmayer M, Baldauf MC, Stein S, Sannino G, Li J, Romero-Pérez L, Westermann F, Hartmann W, Dirksen U, Gymrek M, Anderson ND, Shlien A, **Rotblat B**, Kirchner T, Delattre O, Grünewald TGP.

Cooperation of cancer drivers with regulatory germline variants shapes clinical outcomes.

Nat Commun. 2019 Sep 11;10(1):4128

Varon M, Levy T, Mazor G, Ben David H, Marciano R, Kerlin Y, Prasad M, Elkabets M, Pauck D, Ahmadov U, Picard D, Qin N, Borkhardt A, Reifenberger G, Leprivier G, Remke M, **Rotblat B**

The long noncoding RNA TP73-AS1 promotes medulloblastoma; *Int J Cancer*. 2019 Dec 15;145(12):3402-341

Mai Badarni, Manu Prasad, Noa Balaban, Jonatan Zorea, Ksenia Yagodayev, Joshua Ben-Zion, Anat Bahat Dinur, Reidar Grénman, **Barak Rotblat**, Limor Cohen, Moshe Elkabets

Repression of AXL expression by AP-1/JNK blockage overcomes resistance to PI3Ka therapy; *JCI Insight*. 2019 Mar 12;5(8):e125341

Gal Mazor, Liron Levin, Daniel Picard, Ulvi Ahmadov, Arndt Borkhardt, Guido Reifenberger, Gabriel Leprivier, Marc Remke, **Barak Rotblat**
The lncRNA TP73-AS1 is linked to aggressiveness in glioblastoma and promotes temozolomide resistance in glioblastoma cancer stem cells; *Cell Death and Disease* 2019 Mar 13;10(3):246

Marciano R, Prasad M, Levy T, Tzadok S, Leprivier G, Elkabets M, **Rotblat B**
High-Throughput Screening Identified Compounds Sensitizing Tumor Cells to Glucose Starvation in Culture and VEGF Inhibitors In Vivo; *Cancers (Basel)*. 2019 Jan 30;11(2). pii: E156. doi: 10.3390/cancers11020156.

Rotblat B†, Agostini A, Niklison-Chirou MV, Amelio I, Willis AE†, Melino G.†
Sustained protein synthesis and reduced eEF2K levels in TAp73-/- mice brain: a possible compensatory mechanism.
Cell Cycle 2018 Dec 17(23):2637-2643
† Corresponding authors

Halperin D, Kadir R, Perez Y, Drabkin M, Yogev Y, Wormser O, Berman EM, Eremenko E, **Rotblat B**, Shorer Z, Gradstein L, Shelef I, Birk R, Abdu U, Flusser H, Birk OS
SEC31A mutation affects ER homeostasis, causing neurological syndrome.
J Med Genet. 2018 Nov 21

Zorea J, Prasad M, Cohen L, Li N, Schefzik R, Ghosh S, **Rotblat B**, Brors B, Elkabets M.
IGF1R upregulation confers resistance to isoform-specific inhibitors of PI3K in PIK3CA-driven ovarian cancer. *Cell Death Dis*. 2018 Sep 20;9(10):944.

Tognon CE, Rafn B, Cetinbas NM, Kamura T, Trigo G, **Rotblat B**, Okumura F, Matsumoto M, Chow C, Davare M, Pollak M, Mayor T, Sorensen PH.
Insulin-like growth factor 1 receptor stabilizes the ETV6-NTRK3 chimeric oncoprotein by blocking its KPC1/Rnf123-mediated proteasomal degradation.
J Biol Chem. 2018 Aug 10;293(32):12502-12515.

Marini A*, **Rotblat B*** Sbarato T, Niklison-Chirou MV, Knight JRP, Dudek K, Jones C, Bushell M, Knight RA, Amelio I, Willis AE, Melino G.
TAp73 contributes to the oxidative stress response by regulating protein synthesis.
Proc Natl Acad Sci U S A. 2018 Jun 12;115(24):6219-6224.
* Equal contribution

Marciano R, Leprivier G, **Rotblat B**
Puromycin labeling does not allow protein synthesis to be measured in energy-starved cells; *Cell Death Dis*. 2018 Jan 18;9(2):39

Toiber, Leprivier, **Rotblat B***

Long noncoding RNA: noncoding and not coded; *Cell Death Discov.* 2017 Jan 9;3:16104

Musa J, Orth FM, Dallmayer M, Baldauf M, Pardo M, **Rotblat B**, Kirchner T, Leprivier G, Grunewald TG

Eukaryotic initiation factor 4E binding protein 1 (4E-BP1): A master regulator of mRNA translation involved in tumorigenesis; *Oncogene*, 2016 (1),1-14

***Rotblat B**, *Grunewald T.

Translating cancer-omics into function; *Biology of the Cell* 2015 00, 1-2

*corresponding author; Editorial

Leprivier G, **Rotblat B**, Khan D, Jan E, Sorensen PH.

Stress-mediated translational control in cancer cells; *Biochim Biophys Acta.* 2014 Nov 10. pii: S1874-9399(14)00275-2

Cetinbas N, Daugaard M, Mullen R, Hajee S, **Rotblat B**, Lopez A, Li A, DeBerardinis R J, Sorensen PH

Loss of the tumor suppressor Hace1 leads to ROS-dependent glutamine addiction. *Oncogene* 2014 October

Rossi M, Rotblat B, Ansell K, Caraglia M, Bernassola F, Knight RA, Ciechanover A, Melino G

High throughput screening for inhibitors of the HECT ubiquitin E3 ligase ITCH identifies antidepressant drugs as regulators of autophagy; *Cell Death and Disease* 2014 May 1;5:e1203

Leprivier G, **Rotblat B**, Khan D, Jan E, Sorensen PH.

Stress-mediated translational control in cancer cells.

Biochim Biophys Acta. 2014 Nov 10. pii: S1874-9399(14)00275-2

Rotblat B, Southwell AL, Ehrnhoefer DE, Skotte HN, Metzler M, Franciosi S, Leprivier G, Somasekharan SP, Barokas A, Deng Y, Tang T, Mathers J, Cetinbas N, Daugaard M, Kwok B, Li L, Carnie CJ, Fink D, Nitsch R, Galpin DJ, Ahern CA, Melino G, Penninger JM, Hayden MR, Sorensen PH

HACE1 reduces oxidative stress and mutant Huntingtin toxicity by promoting the NRF2 response; *PNAS* 2014 Feb 25;111(8):3032-7.

Rotblat B*, Grunewald TG, Leprivier G, Melino G, Knight RA.

Anti-oxidative stress response genes: bioinformatic analysis of their expression and relevance in multiple cancers; *Oncotarget.* 2013 Dec;4(12):2577-90

* corresponding author

Leprivier G, **Rotblat B**, Delattre O, Sorensen PH

Surviving nutrient deprivation by restraining translation elongation: biological function of the eEF2 kinase *Med Sci* . 2013 Nov;29(11):951-3. Review

Daugaard M, Nitsch R, **Razaghi B**, McDonald L, Jarrar A, El-Naggar A, Rotblat B, Cetinbas N, Li L, Castillo-Lluva S, Malliri A, Berman JN, Penninger JP, Sorensen PHB

The Hace1 tumor suppressor is an integrated component of the oxidative stress response that regulates NADPH oxidase; *Nat Commun.* 2013 4:2180

Leprivier G, Remke M, **Rotblat B**, Dubuc A, Mateo AR, Kool M, Agnihotri S, El-Naggar A, Yu B, Prakash Somasekharan S, Faubert B, Bridon G, Tognon CE, Mathers J, Thomas R, Li A, Barokas A, Kwok B, Bowden M, Smith S, Wu X,

Korshunov A, Hielscher T, Northcott PA, Galpin JD, Ahern CA, Wang Y, McCabe MG, Collins VP, Jones RG, Pollak M, Delattre O, Gleave ME, Jan E, Pfister SM, Proud CG, Derry WB, Taylor MD, Sorensen PH.
The eEF2 Kinase Confers Resistance to Nutrient Deprivation by Blocking Translation Elongation; *Cell*. 2013 May 23;153(5):1064-79

Rotblat B, Melino G, Knight RA.
NRF2 and p53: Januses in cancer?; *Oncotarget*. 2012 Nov;3(11):1272-83. Review

Somasekharan SP, Stoyanov N, **Rotblat B**, Leprivier G, Galpin JD, Ahern CA, Foster LJ, Sorensen PH
Identification and quantification of newly synthesized proteins translationally regulated by YB-1 using a novel Click-SILAC approach; *Journal of Proteomics*. Sep 5. 2012

Leprivier G, Rufini A, García-Sáez AJ, Borner C, **Rotblat B***
7th Tuscany Retreat on Cancer Research: Genetic profiling, resistance mechanism and novel treatment concepts in cancer. Meeting report; *Cell Death and Differentiation*. 2012 Mar;19(3):546-8
*corresponding author

Rotblat B, Leprivier G, Sorensen PH.
A possible role for long non-coding RNA in modulating signaling pathways; *Med Hypotheses*. 2011 Dec;77(6):962-5

Tognon CE, Martin MJ, Moradian A, Trigo G, **Rotblat B**, Cheng SW, Pollard M, Uy E, Chow C, Carboni JM, Gottardis MM, Pollak M, Morin GB, Sorensen PH.
A tripartite complex composed of ETV6-NTRK3, IRS1 and IGF1R is required for ETV6-NTRK3-mediated membrane localization and transformation; *Oncogene*. 2011 Aug 1.

Gies E, Wilde I, Winget JM, Brack M, Rotblat B, Novoa CA, Balgi AD, Sorensen PH, Roberge M, Mayor T.
Niclosamide prevents the formation of large ubiquitin-containing aggregates caused by proteasome inhibition; *PLoS One*. 2010 Dec 23;5(12)

Rotblat B, Belanis L, Liang H, Elad-Zefadia G, Haklai R, Hancock JF, Kloog Y, Plowman SJ
H-Ras nanocluster stability regulates the magnitude of MAPK signal output; *PLoS ONE*. 2010 Aug 5;5(8)

Shalom-Feuerstein R, Plowman SJ, **Rotblat B**, Ariotti N, Tian T, Hancock JF, Kloog Y
K-Ras Nanoclustering is Subverted by Over-expression of the Scaffold Protein Galectin-3; *Cancer Res*. 2008 Aug 15;68(16):6608-16

Bar M, Aharon M, Benjamin S, **Rotblat B**, Horowitz M, Avni A.
AtEHDs, novel Arabidopsis EH-domain containing proteins involved in Endocytosis; *Plant J*. 2008 Sep;55(6):1025-38

Rotblat B, Ehrlich M, Haklai R, Kloog Y.
The ras inhibitor farnesylthiosalicylic Acid (salirasib) disrupts the spatiotemporal localization of active ras: a potential treatment for cancer; *Methods Enzymol*. 2008;439:467-89

Belanis L, Plowman SJ, **Rotblat B**, Hancock JF, Kloog Y.
Galectin-1 Is a Novel Structural Component and a Major Regulator of H-Ras
Nanoclusters.
Mol Biol Cell. 2008 Jan 30

Rechavi O, Goldstein I, Vernitsky H, **Rotblat B**, Kloog Y.
Intercellular transfer of oncogenic h-ras at the immunological synapse; *PLoS ONE*.
2007 Nov 21;2(11):e1204.

Henis YI, **Rotblat B**, Kloog Y.
FRAP beam-size analysis to measure palmitoylation-dependent membrane
association dynamics and microdomain partitioning of Ras proteins; *Methods*. 2006
Oct;40(2):183-90. Review.

Ashery U, Yizhar O, **Rotblat B**, Kloog Y.
Nonconventional trafficking of Ras associated with Ras signal organization.
Traffic. 2006 Sep;7(9):119-26. Review.

Ashery U, Yizhar O, Rotblat B, Elad-Sfadia G, Barkan B, Haklai R, Kloog
Spatiotemporal organization of Ras signaling: rasosomes and the galectin switch
Cell Mol Neurobiol. 2006 Jul-Aug;26(4-6):471-95.

Rotblat B*, Yizhar O, Haklai R, Ashery U, Kloog Y.
Ras and its signals diffuse through the cell on randomly moving nanoparticles.
Cancer Res. 2006 Feb 15;66(4):1974-81

Roy S, Plowman S, **Rotblat B**, Prior IA, Muncke C, Grainger S, Parton RG, Henis YI,
Kloog Y, Hancock JF.
Individual palmitoyl residues serve distinct roles in H-ras trafficking, microlocalization,
and signaling; *Mol Cell Biol*. 2005 Aug;25(15):6722-33.

Rotblat B, Prior IA, Muncke C, Parton RG, Kloog Y, Henis YI, Hancock JF.
Three separable domains regulate GTP-dependent association of H-ras with the
plasma membrane; *Mol Cell Biol*. 2004 Aug;24(15):6799-810.

Rotblat B*, Niv H*, André S, Kaltner H, Gabius HJ, Kloog Y. Galectin-1(L11A)
predicted from a computed galectin-1 farnesyl-binding pocket selectively inhibits Ras-
GTP; *Cancer Res*. 2004 May 1;64(9):3112-8.

* equal contribution

Rotblat B, Enshell-Seijffers D, Gershoni JM, Schuster S, Avni A.
Identification of an essential component of the elicitation active site of the
EIX protein elicitor; *Plant J*. 2002 Dec;32(6):1049-55.