Curriculum Vitae

Name: Rivka A. Levron, MD, PhD

Profession: Lecturer in medical science

Personal Information:
Family Status: married (Nissan Levron)

Education:

B.S.	University of Wisconsin-Milwaukee USA	1989	medical science
M.D.	Medical College of Wisconsin, Milwaukee, USA	1992	medicine
Ph.D.	Columbia University, New York, USA	2001	neuroscience

Professional Experience:

2021-present	Technical consultant, Trainee patent attorney, IPK, Modiin
2019-present	Adjunct Faculty, Touro College Israel, Jerusalem
2015-present	Lecturer, Michlalah College, Jerusalem
2018-2021	Trainee patent attorney, Secemski Patents, Jerusalem
2015-2018	Project Director, Translational Research Quark Pharma, Rehovot
2008-2014	Staff scientist, National Eye Institute, Bethesda USA
2006-2008; 2015-2016	Consulting Editor, BiomEditor, USA
2001-2006	Postdoc and staff scientist, National Cancer Institute, Frederick USA
1994-2000	Graduate research assistant, Columbia University, New York USA
1992-1993	Neurosurgical resident, Medical College of Wisconsin, Milwaukee USA

Areas of specialization:
Biomedical sciences teaching – college level instruction in microbiology, biopsychology, genetics, anatomy & physiology, nutrition
Writing and prosecuting patents in the field of biomedical devices
Biomedical sciences research – neuroscience, genetics, developmental biology, stem cell therapy; mouse models of human disease
Extensive experience in writing and editing scientific and medical articles

Training and Skills
Scientific: analytical skills, data interpretation, writing, editing and revising reports and scientific documentation; preparing oral and poster presentations at scientific conferences and meetings
Patent law: patent application drafting and prosecution
Administration: Experience with administrative procedures at NIH; supervisor and coordinator for animal-related work in a lab of ~50 people; familiar with GCP

Publications Peer- reviewed articles

Rachel RA, Yamamoto EA, Dewanjee M, May-Simera HL, Sergeev Y, Hackett AN, Pohida K, Munasinghe J, Gotoh N, Wickstead B, Farris RN, Dong L, Li T, Swaroop A. CEP290 alleles in mice disrupt tissue-specific cilia biogenesis and recapitulate features of syndromic ciliopathies. Hum Mol Genet. 2015 Apr 9. pii: ddv123. [Epub ahead of print]

Veleri S, Manjunath SH, Fariss RN, May-Simera H, Brooks M, Foskett TA, Gao C, Longo TA, Liu P, Nagashima K, **Rachel RA**, Li T, Dong L, Swaroop A. Ciliopathy-associated gene Cc2d2a promotes assembly of subdistal appendages on the mother centriole during cilia biogenesis.

Nat Commun. 2014 Jun 20;5:4207. doi: 10.1038/ncomms5207.

Kim S-Y, Yang H-J, Chang Y-S, Kim J-W, Brooks M, Chew EY, Wong WT, Farris RN, **Rachel RA**, Cogliati T, Qian H, Swaroop A. Deletion of aryl hydrocarbon receptor AHR in mice leads to subretinal accumulation of microglia and RPE atrophy. Invest Ophthalmol Vis Sci. 2014 Aug 26;55(9):6031-40. doi: 10.1167/iovs.14-15091.

Yamben IF, **Rachel RA**, Shatadal S, Copeland NG, Jenkins NA, Warming S, Griep AE. Scrib is required for epithelial cell identity and prevents epithelial to mesenchymal transition in the mouse. Dev Biol. 2013 Dec 1;384(1):41-52. doi:10.1016/j.ydbio.2013.09.027. Epub 2013 Oct1

Nasonkin IO, Merbs SL, Lazo K, Oliver VF, Brooks M, Patel K, Enke RA, Nellissery J, Jamrich M; Le YZ, Bharti K, Fariss RN, **Rachel RA**, Zack DJ, Rodriguez-Boulan EJ, Swaroop A. Conditional knockdown of DNA methyltransferase-1 (Dnmt1) reveals a key role of retinal pigment epithelium integrity in photoreceptor outer segment morphogenesis. Development. 2013 Mar;140(6):1330-41. doi: 10.1242/dev.086603. Epub 2013 Feb 13

Rachel RA, Li T, Swaroop A. 2012 Photoreceptor sensory cilia and ciliopathies: focus on CEP290, RPGR, and their interacting proteins. Cilia 2102 1:22

Rachel RA, Nagashima K, O'Sullivan TN, Frost LS, Stefano FP, Marigo V, Boesze-Battaglia K. Melanoregulin, product of the dsu locus, links the BLOC-pathway and OA1 in organelle biogenesis. PLoS One. 2012;7(9):e42446. doi: 10.1371/journal.pone.0042446. Epub 2012 Sep 11. PMID: 22984402

Rachel RA, May-Simera HL, Veleri S, Gotoh N, Choi BY, Murga-Zamalloa C, McIntyre JC, Marek J, Lopez I, Hackett AN, Zhang J, Brooks M, den Hollander AI, Beales PL, Li T, Jacobson SG, Sood R, Martens JR, Liu P, Friedman TB, Khanna H, Koenekoop RK, Kelley MW, Swaroop A. 2012 Combining Cep290 and Mkks ciliopathy alleles in mice rescues sensory defects and restores ciliogenesis. J Clin Invest. 2012 Apr 2;122(4):1233-45. doi: 10.1172/JCI60981. Epub 2012 Mar 26. PMID: 22446187

Roger JE, Ranganath K, Zhao L, Cojocaru RI, Brooks M, Gotoh N, Veleri S, Hiriyanna A, **Rachel RA**, Campos MM, Fariss RN, Wong WT, Swaroop A. 2012 Preservation of cone photoreceptors after a rapid yet transient degeneration and remodeling in cone-only Nrl-/- mouse retina. J Neurosci. 32(2):528-41. PMID: 22238088

Murga-Zamalloa CA, Ghosh AK, Patil SB, Reed NA, Chan L, Davuluri S, Peranen J, Hurd TW, **Rachel RA**, and Khanna H. 2011. Accumulation of RAF-1 kinase inhibitory protein (RKIP) is associated with CEP290-mediated photoreceptor degeneration in ciliopathies. J Biol Chem. 2011 Jun 17. [Epub ahead of print]

Cideciyan AV, **Rachel RA**, Aleman TS, Swider M, Schwartz SB, Sumaroka A, Roman AJ, Stone EM, Jacobson SG, Swaroop A. 2011. Human blindness caused by CEP290 mutations: identifying the target retinal cell and appropriate animal model for translation to gene therapy Hum Mol Genet 20(7):1411-23.

Damek-Poprawa M, Diemer T, Lopes VS, Lillo C, Harper DC, Marks MS, Wu Y, Sparrow JR, **Rachel RA**, Williams DS, Boesze-Battaglia K. 2009. Melanoregulin (MREG) modulates lysosome function in pigment epithelial cells. J Biol Chem 284(16):10877-89.

Nola S, Sebbagh M, Marchetto S, Osmani N, Nourry C, Audebert S, Navarro C, **Rachel R**, Montcouquiol M, Sans N, Etienne-Manneville S, Borg JP, Santoni MJ. 2008. Scrib regulates PAK activity during the cell migration process. Hum Mol Genet. 17(22):3552-65.

Boesze-Battaglia K, Song H, Sokolov M, Lillo C, Pankoski-Walker L, Gretzula C, Gallagher B, **Rachel RA**, Jenkins NA, Copeland NG, Morris F, Jacob J, Yeagle P, Williams DS, Damek- Poprawa M. 2007. The tetraspanin protein peripherin-2 forms a complex with Melanoregulin, a putative membrane fusion regulator. Biochemistry 46(5):1256-72.

Warming S, **Rachel RA**, Jenkins NA, Copeland NG. 2006. Zfp423 is required for normal cerebellar development. Mol Cell Biol 26(18):6913-22.

Montcouquiol M, Sans N, Forge A, **Rachel RA**, Murdoch JN, Jenkins NA, Copeland NG, Wenthold R, Kelley MW. 2006. Asymmetric localization of Vangl2 and Fz3 indicate novel mechanisms for planar cell polarity in mammals. J Neurosci 26(19):5265-75.

Zhang XM, Chen BY, Ng AH, Tanner JA, Tay D, So KF, **Rachel RA**, Copeland NG, Jenkins NA, Huang JD. 2005. Transgenic mice expressing Cre-recombinase specifically in retinal rod bipolar neurons. Invest Ophthalmol Vis Sci. Oct;46(10):3515-20.

O'Sullivan TN, Wu XS, **Rachel RA**, Huang JD, Swing DA, Matesic LE, Hammer JA 3rd, Copeland NG, Jenkins NA. dsu functions in a MYO5A-independent pathway to suppress the coat color of dilute mice. Proc Natl Acad Sci U S A. 2004 Nov 30;101(48):16831-6.

Hisa T, Spence SE, **Rachel RA**, Fujita M, Nakamura T, Ward JM, Devor-Henneman DE, Saiki Y, Kutsuna H, Tessarollo L, Jenkins NA, Copeland NG. 2004. Hematopoietic, angiogenic and eye defects in Meis1 mutant animals. EMBO J. 23(2):450-9.

Herrera E, Brown L, **Rachel RA**, Aruga J, Dolen G, Mikoshiba K, Brown S, Mason CA. 2003. Zic2 patterns binocular vision by specifying the uncrossed retinal projection. Cell 114(5):545-57.

Montcouquiol M*, **Rachel RA***, Lanford PJ, Copeland NG, Jenkins NA, Kelley MW. 2003. Identification of Vangl2 and Scrb1 as planar polarity genes in mammals. Nature 423(6936):173-7. *Equal contribution.

Liu P, Keller JR, Ortiz M, Tessarollo L, **Rachel RA**, Nakamura T, Jenkins NA, Copeland NG. 2003. BCL11a is essential for normal lymphoid development. Nat Immunol 4(6):525-32.

Wilson SM, Bhattacharyya B, **Rachel RA**, Coppola V, Tessarollo L, Householder DB, Fletcher CF, Miller RJ, Copeland NG, Jenkins NA. 2002. Synaptic defects in ataxia mice result from a mutation in Usp14, a ubiquitin-specific protease. Nat Genet. 32(3):420-25.

Rachel RA, Mason CA, Beermann F. 2002. Influence of tyrosinase levels on the size of the uncrossed retinal projection. Pigment Cell Res 4(15): 273-281.

Rachel RA, Wellington S, Warburton D, Mason CA, Beermann F. 2002. A new allele of Gli3 and a new mutation, circletail (Crc), arising from a single transgenic experiment. Genesis 33:55-61.

Rachel RA, Dolen G, Hayes NL, Lu A, Erskine L, Nowakowski RS, Mason CA. 2002. Spatiotemporal features of early neuronogenesis differ in wild-type and albino mouse retina. J Neurosci 22(11):4249-4263.

Murdoch JN, **Rachel RA**, Shah S, Beermann F, Stanier P, Mason CA, Copp AJ. 2001. Circletail, a new mouse mutant with severe neural tube defects: chromosomal localization and interaction with the loop-tail mutation. Genomics Nov;78(1/2):55-63.

Erskine L, Williams SE, Brose K, Kidd T, **Rachel RA**, Goodman CS, Tessier-Lavigne M, Mason CA. 2000. Retinal ganglion cell axon guidance in the mouse optic chiasm: expression and function of Robos and Slits. J Neurosci 20(13):4975-82.

Rachel RA, Murdoch JN, Beermann F, Copp AJ, Mason CA. 2000. Circletail, a new mouse mutant with failure of neural tube closure, shows defects in retinal axon trajectory at the optic chiasm common to other mice with cranial neural tube defects. Genesis 27(1):32-47.

Wong-Riley M, Antuono P, Ho KC, Egan R, Hevner R, Liebl W, Huang Z, **Rachel R**, Jones J. 1997. Cytochrome oxidase in Alzheimer's disease: biochemical, histochemical, and immunohistochemical analyses of the visual and other systems. Vision Res 37(24):3593-608.

Wang L-C*, **Rachel RA***, Marcus RC*, Mason CA. 1996. Chemosuppression of retinal axon growth by the mouse optic chiasm. Neuron 17:849-62. *Equal contribution.

Rachel RA, Sieber-Blum M. 1989. Glutamate-immunoreactive sensory neurons in quail neural crest cell culture, Brain Research 497:43-50.

Reviews/ book chapters

Rachel RA, Reese B. updated ed. Optic nerve, optic chiasm, and optic tract. Entry in Encyclopedia of Neuroscience, Adelman G and Smith BH, eds. Elsevier: (2009).

Contributor, Dana Guide to Brain Health, 2002.

Rachel RA. 1999. Surgical treatment of hydrocephalus: a historical perspective. Pediatr Neurosurg. 30(6):296-304