

BIOGRAPHICAL SKETCH

NAME DALKARA, Deniz		POSITION TITLE Group leader, Tenured researcher at INSERM	
eRA COMMONS USER NAME (credential, e.g., agency login)			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Middle East Technical University, Ankara, Turkey	B.Sc.	06/2001	Biology
Louis Pasteur University, Strasbourg, France	M.Sc.	07/2002	Pharmacology and Pharmacochemistry
Louis Pasteur University, Strasbourg, France	Ph.D.	02/2006	Cellular and Molecular Aspects of Biology

A. Positions and Honors

Positions

- 2002-2006 PhD student, University of Louis Pasteur, Strasbourg, France
(Scholarship from the Ministry of Research and Technology)
- 2006-2007 Post-doctoral fellow at the Max Planck for Biophysics, Frankfurt Am Main, Germany
(Max Planck Fellowship)
- 2007-2012 Post-doctoral trainee at UC Berkeley, Berkeley, CA, USA
(Nanomedicine Development Center for Optical Control of Biological Function)
- 2012-Present Group leader, Biotherapeutics Department, Institut de la Vision, Paris, France
- 2013- CR1-INSERM tenured research position

Honors

- Euretina Science and Medicine Innovation Award (2013)
- Max Planck Fellowship (2006)
- Biovalley PhD thesis award 1st prize from Société de Biologie de Strasbourg (2006)
- Fellowship from the Ministère de la Recherche et de la Technologie (2002- 2005)

Patents

- DV Schaffer, JT Koerber, RR Klimczak, D Dalkara, JG Flannery, M Visel
Adeno-Associated Virus with Variant Capsid and Methods of Use Thereof, U.S. Application No: 61/478,355. WO2012145601 A3
- JA Sahel, S Picaud, T Leveillard, D Dalkara, J Duebel, B Roska,
Methods and compositions for treatment of retinal degenerative diseases. Application No: PCT/EP2013/053667. WO 2013124477 A1

B. Selected Peer-Reviewed Publications (*equal contribution, #corresponding author)

1. Macé E., Caplette R., Marre O., Sengupta A., Chaffiol A., Barbe P., Desrosiers M., Bamberg E., Sahel JA., Picaud S., Duebel J., **Dalkara D.**# Targeting channelrhodopsin-2 to ON-bipolar cells with vitreally administered AAV restores ON and OFF visual responses in blind mice. Mol Ther. 2014, Aug 6. doi: 10.1038/mt.2014.

2. Vacca O., Darche M., Schaffer DV, Flannery JC, Sahel JA, Rendon A, **Dalkara D[#]**. AAV-mediated gene delivery in Dp71-null mouse model with compromised barriers. *Glia*. 2013, Dec 31. doi: 10.1002/glia.22617
3. **Dalkara D^{*}**, Byrne LC^{*}, Klimczak RR, Visel M, Yin L, Merigan WH, Flannery JG, Schaffer DV. In Vivo-Directed Evolution of a New Adeno-Associated Virus for Therapeutic Outer-Retinal Gene Delivery from the Vitreous. *Sci Trans Med*. 2013 Jun; Vol 5 Issue 189.
4. **Dalkara D[#]**, Byrne LC, Lee T, Hoffmann NV, Schaffer DV, Flannery JG. Enhanced gene delivery to the neonatal retina through systemic administration of tyrosine-mutated AAV9. *Gene Ther*. 2012 Feb;19(2):176-81.
5. **Dalkara D**, Kolstad KD, Guerin KI, Hoffmann NV, Visel M, Klimczak RR, Schaffer DV, Flannery JG. AAV mediated GDNF secretion from retinal glia slows down retinal degeneration in a rat model of retinitis pigmentosa. *Mol Ther*. 2011 Sep;19(9):1602-8.
6. Kolstad KD^{*}/ **Dalkara D[#]**, Guerin K, Visel M, Hoffmann N, Schaffer DV, Flannery JG. Changes in adeno-associated virus-mediated gene delivery in retinal degeneration. *Hum Gene Ther*. 2010 May;21(5):571-8.
7. **Dalkara D[#]**, Kolstad KD, Caporale N, Visel M, Klimczak RR, Schaffer DV, Flannery JG. Inner limiting membrane barriers to AAV-mediated retinal transduction from the vitreous. *Mol Ther*. 2009 Dec;17(12):2096-102.
8. **Dalkara D**, Chandrashekhar C, Zuber G. Intracellular protein delivery with a dimerizable amphiphile for improved complex stability and prolonged protein release in the cytoplasm of adherent cell lines. *J Control Release*. 2006 Dec 1;116(3):353-9.
9. **Dalkara D**, Zuber G, Behr JP. Intracytoplasmic delivery of anionic proteins. *Mol Ther*. 2004 Jun;9(6):964-9.
10. Yin L, Masella B, **Dalkara D**, Zhang J, Flannery JG, Schaffer DV, Williams DR, Merigan WH. Imaging light responses of foveal ganglion cells in the living macaque eye. *J Neurosci*. 2014 May 7;34(19):6596-605.
11. **Dalkara D**, Sahel JA. Gene therapy for inherited retinal degenerations. *C R Biol*. 2014 Mar;337(3):185-92.
12. Byrne LC, Oztürk BE, Lee T, Fortuny C, Visel M, **Dalkara D**, Schaffer DV, Flannery JG. Retinoschisin gene therapy in photoreceptors, Müller glia or all retinal cells in the Rs1h^{-/-} mouse. *Gene Ther*. 2014 Jun;21(6):585-92.
13. Masseck OA, Spoida K, **Dalkara D**, Maejima T, Rubelowski JM, Wallhorn L, Deneris E, Herlitze S., Vertebrate Cone Opsins Enable Sustained and Highly Sensitive Rapid Control of Gi/o Signaling in Anxiety Circuitry. *Neuron*. 2014, *in press*
14. Pernet V, Joly S, Jordi N, **Dalkara D**, Guzik-Kornacka A, Flannery JG, Schwab ME. Misguidance, and modulation of axonal regeneration by Stat3 and Rho/ROCK signaling in the transparent optic, nerve. *Cell Death Dis*. 2013 Jul 18;4:e734
15. Sahel JA, Léveillard T, Picaud S, **Dalkara D**, Marazova K, Safran A, Paques M, Duebel J, Roska B, Mohand-Said S. *Graefes Arch Clin Exp Ophthalmol*. 2013 Apr 11
16. Pernet V, Joly S, **Dalkara D**, Jordi N, Schwarz O, Christ F, Schaffer DV, Flannery JG, Schwab ME. Long-distance axonal regeneration induced by CNTF gene transfer is impaired by axonal misguidance in the injured adult optic nerve. *Neurobiol Dis*. 2012 Nov 26 S0969-9961(12)00374-9.
17. Dehay B, **Dalkara D**, Dovero S, Li Q, Bezard E. Systemic scAAV9 variant mediates brain transduction in newborn rhesus macaques. *Sci Rep*. 2012;2:253. Epub 2012 Feb 9.
18. Mourot A, Fehrentz T, Le Feuvre Y, Smith CM, Herold C, **Dalkara D**, Nagy F, Trauner D, Kramer RH. Rapid optical control of nociception with an ion-channel photoswitch. *Nat Methods*. 2012 Feb 19 ;9(4):396-402.

19. Pernet V, Joly S, **Dalkara D**, Schwarz O, Christ F, Schaffer D, Flannery JG, Schwab ME. Neuronal Nogo-A upregulation does not contribute to ER stress-associated apoptosis but participates in the regenerative response in the axotomized adult retina. Cell Death Differ. 2011 Dec 23.
20. Caporale N, Kolstad KD, Lee T, Tochitsky I, **Dalkara D**, Trauner D, Kramer R, Dan Y, Isacoff EY, Flannery JG. LiGluR restores visual responses in rodent models of inherited blindness. Mol Ther. 2011 Jul;19(7):1212-9.
21. Yin L, Greenberg K, Hunter JJ, **Dalkara D**, Kolstad KD, Masella BD, Wolfe R, Visel M, Stone D, Libby RT, Diloreto D Jr, Schaffer D, Flannery J, Williams DR, Merigan WH. Intravitreal injection of AAV2 transduces macaque inner retina. Invest Ophthalmol Vis Sci. 2011 Apr 25;52(5):2775-83.
22. Klimczak RR, Koerber JT, **Dalkara D**, Flannery JG, Schaffer DV. A novel adeno-associated viral variant for efficient and selective intravitreal transduction of rat Müller cells. PLoS One. 2009 Oct 14;4(10):e7467.
23. Koerber JT, Klimczak R, Jang JH, **Dalkara D**, Flannery JG, Schaffer DV. Molecular evolution of adeno-associated virus for enhanced glial gene delivery. Mol Ther. 2009 Dec;17(12):2088-95..
24. Courtête J, Sibling AP, Zeder-Lutz G, **Dalkara D**, Oulad-Abdelghani M, Zuber G, Weiss E. Suppression of cervical carcinoma cell growth by intracytoplasmic codelivery of anti-oncoprotein E6 antibody and small interfering RNA. Mol Cancer Ther. 2007 Jun;6(6):1728-35.
25. Fraley AW, Pons B, **Dalkara D**, Nullans G, Behr JP, Zuber G. Cationic oligonucleotide-peptide conjugates with aggregating properties enter efficiently into cells while maintaining hybridization properties and enzymatic recognition. J Am Chem Soc. 2006 Aug 23;128(33):10763-71

C. Research Support

Ongoing Research Support

1. Young Investigator grant from Fondation Voir et Entendre, (2012-2015)
2. Optovision, Sanofi-Fovea, (2012-2014)
3. Foundation Fighting Blindness, National Neurovision Research Institute, (2013-2015)
4. Marie Curie Career Integration Grant, (2013-2017)
5. NRJ grant, Fondation NRJ (2014-2015)